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1884-85.

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EXAMINATION PAPERS.

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EXAMINATION PAPERS, DECEMBER, 1883.

MATRICULATION.

SATURDAY, 15TH DECEMBER, 10 A.M. TO 1 P.M.

ENGLISH LANGUAGE.

I (*a*) Paraphrase the following :—

Sweet *forest* bird ! To-day thy note
Is louder, gladder, than *before*,
With thee my spirit longs to float,—
With thee I *fain* to God would soar.

Sing *on* sweet forest minstrel ; sing,
Until thy feeble force be spent,
The glorious *opulence* of spring,
Its life and love and merriment.

And, should thy song for ever *ring*
Through endless ages without rest,
Not half the beauty could'st thou sing,
So fair the *world that* God has blest.

(*b*) State the part of speech, and give the construction of the words in italics.

II. (*a*) Divide the following words into syllables and place the accent on the syllable to be accented in pronouncing each of them :—

Refer, success, lamentable, consider, adversary, variety.

(*b*) Of the terminations *al*, *ly*, *ness*, *ous*, *ence*, *er*, add the correct one to lonely, abhor, pity, due, travel, colloquy ; and add the termination *ing* to befit and benefit.

(*c*) Punctuate—

Androcles who had no arms o any kind now gave himself up for lost what shall I do said he I have no spear or sword no not so much as a stick to defend myself with.

III. (*a*) At a reception, Mr. Nasmyth was introduced to Cardinal Manning as "the Steam Hammer." After a cordial greeting the Cardinal said suddenly, "But you are also 'the Man in the Moon'"? "Yes, your Eminence, I have written a book about the moon, and I shall be glad if you will accept a copy." Write from after "the Cardinal said suddenly" in *indirect* speech.

(*b*) *A* stole *B's* horse. *B* complained to Magistrate. *A*, *B*, and horse appeared before Magistrate. *B* insisted that horse was his. Magistrate unable to decide. *B* asked permission to prove horse to be his. Permission granted. *B* threw cloth over horse's head and asked *A* which eye was blind. A said left eye. Horse not blind at all. Magistrate adjudged horse to *B*.

Expand this into a narrative not exceeding a page in length, putting all that *B* says into the *direct* form of speech.

IV. Correct—

(1) So great offence called for some severity in punishing the offender.
(2) These kinds of trees yield tough timbers.
(3) English is more universally spoken in India than formerly.
(4) Our library has a great quantity of books in it.
(5) It is most seldom to see so much of the land overflown.
(6) The objections for that proposal may be stated as thus.

V. (*a*) Construct sentences to show the difference between—

(1) cygnet and signet;
(2) knave and nave;
(3) oar and ore;
(4) stationery and stationary;
(5) official and officious;
(6) disconnected and unconnected.

(*b*) State the difference between—

(1) one of these men is brave, and any one of these men is brave;

(2) this is a most valuable book, and this is the most valuable book.

VI. (*a*) (1) "Hard as he worked, he failed." Write this sentence introducing *though*.

(2) "A few rounds of cannon, and the enemy fled." Supply the ellipsis.

(3) "These far departing seek a kinder shore." Supply the clause implied.

(4) "It is evident that the people take little or no interest in the question." Write this as a simple sentence.

(*b*) Frame sentences to exemplify the use of—

(1) the present tense used for the perfect;

(2) the active voice for the passive in the infinitive mood;

(3) the infinitive absolute;

(4) the participle absolute.

VII. (*a*) Write the following passage substituting other words or phrases for those in italics, *and underline those you use*—

On *entering* the shop, the *proprietor* welcomes a foreigner with *sundry* salutations, sometimes *advancing* to shake hands, and *endeavouring* to make *the most* of his *scanty knowledge* of English. He will *exhibit* his commodities with *astonishing* patience, and *evince nothing of* disappointment, if, after *gratifying* his curiosity, the visitor *depart* without purchasing anything.

(*b*) (1) Give adjectives derived from Latin to correspond to the following nouns:—

City, point, eye, world, slave, fat.

(2) Add an appropriate noun to each adjective to illustrate its ordinary use.

SATURDAY, 15TH DECEMBER, 2 TO 5 P.M.

ENGLISH TEXT-BOOK.

I. (*a*) "Readers of the poem styled 'Cooper's Hill' usually confine their commendations to two lines." Quote them.

(*b*) What places and scenes are described in the poem?

(*c*) "Here have I seen *the king*, when great affairs gave leave to slacken and unbend his cares," &c. What king? In what connection does this passage occur?

(*d*) Give the name of the contemporary poet alluded to by Sir John Denham in his "Cooper's Hill," and the lines referring to that poet.

II. (*a*) "Not to recount the several kings to whom
It gave a cradle, or to whom a tomb;
But thee *great Edward*, and *thy greater son*,
. . . . . and *thy Bellona*, ...
She to the triumph led *one captive king*,
And brought that son which didst *the second* bring.
Then didst thou found *that Order* . . . .
Which foreign kings and emperors esteem
The second honour to their diadem."

(1) Write *brief* explanatory notes on the parts in italics. (2) Point out two grammatical improprieties in the passage.

(*b*) "Then did Religion in a lazy cell
In empty, airy contemplations dwell;
And like the block unmoved lay; but ours,
As much more active, like the stork devours."

(1) What times are contrasted in the above quotation? (2) Detail the fable alluded to *as briefly as possible.*

III. (*a*) "Heaven's gate
Opes to the ——— at as ——— rate
As the ——— eye takes a ——— in."
"What gave great ———to the assassin's knife,
And fixed disease on ——— closing life?

What murdered ———, and what exiled ———,
By kings protected and to kings allied?"

(1) Fill up the blanks in each quotation. (2) Give the substance of Johnson's answer to the questions.

(*b*) "Our wills and fates do so contrary run
That our devices still are overthrown;
Our thoughts are ours, their ends none of our own."

Give three conspicuous instances of the truth of this from Johnson's "Vanity of Human Wishes," and state the "thought" and the "end" in each instance.

IV. (*a*) Write brief explanatory notes on—(1) Bate a stiver, (2) A new-made mayor's unwieldy state, (3) Clan Alpine's flank, (4) Bothwell's house, (5) Pultowa's Day, (6) The Cham, (7) Gothic standards, (8) Confiscation's vultures.

(*b*) Describe (in your own words) the dress and personal appearance of the Pied Piper of Hamelin.

V. (*a*) Name the figures of speech used in the following:—

(1) With half mankind embattled at his side.
(2) To buried merit raise the tardy bust.

(*b*) Give the exact meaning of the words in italics in—

(1) One sharp ear *pricked out on* his track.
(2) Let go bolt *and all.*
(3) In fifty different *sharps and flats.*
(4) The mayor *looked blue.*

VI. (*a*) Expand the following phrases in italics into clauses giving the construction of each clause:—

(1) England expects every man *to do his duty.*
(2) You must be a seaman *to be an officer.*
(3) His services had been too eminent on that day *for any commander to express* anything but satisfaction and gratitude.
(4) *Without this armistice* the fleet would never have gone *but by order of the admiralty;* and *with it* we shall not go this week.

(*b*) Distinguish between "do you anchor" and "do you anchor?" by simply parsing each.

VII. Re-write the following sentences as directed:—

(1) "To a brave man's feelings such a scene is of all others the most shocking"—(*a*) correcting the error and retaining the superlative, (*b*) using the comparative, (*c*) using the positive.

(2) "Do you find victories, and we will find rewards"—as a complex sentence.

(3) "The more you deny yourself, the better you become"—as a simple sentence.

(4) "There can be little doubt but that the expedition would have failed, if Captain Domett had not given his advice"—omitting the redundancy.

(5) "If he had come out and fought me, it would at least have added ten years to my life"—giving to the phrase "at least" its proper place.

(6) "If they choose to trust the affairs of the public in such a thing, I cannot help it"—substituting for "it" the phrase for which it stands.

VIII. Express in your own words as simply as you can—

(1) A price was set upon his head.

(2) The line of defence which covered her shores has struck to the British flag.

(3) He was especially desirous of catching him, and administering to him his own lying letter in a sandwich.

(4) He would not give sixpence to call the king his uncle.

(5) May humanity after victory be the predominant feature in the British fleet.

(6) Nelson immediately put the intentions of Russia to the proof.

(7) The eyes of the fleet.

(8) Rear-admiral of the blue.

IX. (*a*) On two occasions Nelson felt to it be his duty to disobey the orders of his superior officer. Mention the occasions and state in each case his reasons for disobeying and the consequences.

(*b*) " 'Nel' is as brave as a lion and as gentle as a lamb." Whose words are these? Specify two acts of Nelson's which seem to you to justify this opinion.

(*c*) Criticise the reasoning in the following extract:—"One writer discovered a curious ground of satisfaction in the reflection that Nelson, as may be inferred from his name, was of Danish descent and his actions therefore were attributable to Danish valour."

X. Explain the following allusions:—

(1) Nelson well understood the character of the perfidious Corsican.

(2) The weakness of Spain, and not her will, consented.

(3) The prophecy of the Irish Poet was thus accomplished and the friar reaped the fruits.

(4) The peace of Amiens was just signed.

(5) I agree with your Royal Highness most entirely that the son of a Rodney ought to be the *protégé* of every person in the kingdom and particularly of sea officers.

(6) He has left us, not indeed his mantle of inspiration, but a name and an example.

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

SANSKRIT: TEXT-BOOKS AND GRAMMAR.

I. Rewrite the following with the proper Sandhi, stating the Sandhi rules in every case:—

(1) अभि + एत्य (6) तत् + हि

(2) मुनी + इमौ (7) पापात् + निवारयति

(3) हरिः + रक्षति (8) सुहृत् + लेखः

(4) एषः + दाशरथिः (9) एतत् + श्रुत्वा

(5) महान् + चन्दनवृक्षः (10) भोः + देवाः

II. Decline इदम् and अदस् in the neuter gender.

III. What cases do विना, प्रति, नमः, ऋते, कुप् and भी govern? Frame sentences, using those. Illustrate the use of the genitive and vocative absolute by examples.

IV. (a) Give the 2nd person imperative of शास्, हन्, अश्, अस् to be, and स्वप्.

(b) Give the indeclinable past participle in त्वा and य of वच्, स्था, वस् to dwell, विश्, तॄ, नम्, प्रच्छ्, and चि.

(c) Give the 3rd person aorist Parasmaipada of दृ, विश्, and दृश्.

(d) Conjugate रुद्, and स्तु in the present indicative (लट्)

V. (a) Give two meanings of each of the following words:— विषाण, पतत्रि, विषय, संविद्, प्रत्यय, दिव.

(b) Explain अनागतविधाता, प्रत्युत्पन्नमति, यूपोच्छ्रय, दारक्रिया, मित्रभेद, कापुरुष, उत्साहशक्ति, सामादयउपायाः, पञ्चविधोमन्त्रः.

VI. (*a*) What are the titles of the ten cantos of the Ramayana that you have read for this year's Matriculation Examination?

(*b*) Give the Sanskrit equivalents of 'twenty-two,' 'twenty-eight,' 'forty-two,' 'forty-eight,' 'eighty-four,' and 'one hundred and ninety-two,' 'sixtieth,' 'twenty-first,' 'one hundred and ninth.'

VII. Explain, giving the reference (where necessary) to the context—

(*a*) नाषडङ्गविदत्रासौ नाव्रतोनाबहुश्रुतः
सदस्यसस्यवैराज्ञो नावादकुशलोद्विजः।

(*b*) सचैत्यो राजसिंहस्य सञ्चितःकुशलैर्द्विजैः
गरुडोरुक्षपत्तोवै त्रिगुणोष्टादशात्मकः।

(*c*) स्निग्धहर्यक्षतनुजश्मश्रुप्रवरमूर्धजम्
शैलशृङ्गसमुत्सेधं दृप्तशार्दूलविक्रमम्।
प्रादुर्भूतंमहद्भूतं ... ...

(*d*) बलवताभिभूतस्य विदेशगमनंतदनुप्रवेशोवानीतिः

(*e*) दग्धानांकिलवह्निनाहितकरस्तेकोपितस्योद्भवः

(*f*) भिन्नसन्धानेहिमन्त्रिणांबुद्धिपरीक्षा

(*g*) गतानुगातिकोलोकः नलोकःपारमार्थिकः

(*h*) तेजसासहजातानां वयःकुत्रोपयुज्यते

VIII. Give the विग्रह or analysis of the compounds underlined in VII (*a*) and (*b*), and state the class to which each of them belongs.

IX. वाच्यंश्रद्धासमेतस्यपृच्छतश्चविशेषतः

प्रोक्तंश्रद्धाविहीनस्यअरण्यरुदितोपमम्

(*a*) Render this into English.

(*b*) Parse the underlined words and explain their connexion in the sentence.

(*c*) धूमगन्धंवपायास्तु जिघ्रतिस्मनराधिपः

How is the meaning of जिघ्रति modified by the particle स्म ?

(*d*) पश्यमेबुद्धिप्रभावं यावदिमंदुष्टसमुद्रंचंचाशोषयामि

What does शोषयामि mean? What is the alteration in the meaning of the verb by the addition of यावत् ? What other word would similarly affect the meaning of the verb?

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

SANSKRIT: TRANSLATION.

I. Translate into English—

(*a*) एवंदत्वावरंदेवो देवानांविष्णुरात्मवान् ।
मानुषेचिंतयामास जन्मभूमिमथात्मनः ॥१॥
ततःपद्मपलाशाक्षः कृत्वात्मानंचतुर्विधम् ।
पितरंरोचयामास तदादशरथंनृपम् ॥२॥

सचाप्यपुत्रोनृपति स्तस्मिन्कालेमहाद्युतिः ।
अयजत्पुत्रियामिष्टिं पुत्रेप्सुररिसूदनः ॥३॥
सकृत्वानिश्चयंविष्णु रामंञ्चयत्रपितामहम् ।
अंतर्धानंगतोदेवैः पूज्यमानोमहर्षिभिः । ॥४॥
तत्रास्ययजमानस्य पावकादतुलप्रभम् ।
प्रादुर्भूतंमहद्भूतं महावीर्यंमहाबलम् ॥५॥
कृष्णंरक्तांबरधरं रक्तास्यंदुंदुभिस्वनम् ।
स्निग्धहर्य्यक्षतनुजंशुभ्रश्मश्रुप्रवरमूर्धजं ॥६॥
शुभलक्षणसंपन्नं दिव्याभरणभूषितम् ।
शैलशृङ्गसमुत्सेधं दृप्तशार्दूलविक्रमम् ॥७॥
दिव्याकारंसमाकारं दीप्तानलशिखोपमम् ।
तप्तजांबूनदमयीं राजतांतपरिच्छदाम् ॥८॥
दिव्यपायससंपूर्णां पात्रींपद्मीमिवप्रियाम् ।
प्रगृह्यविपुलांदोर्भ्यां स्वयंमायामयीमिव ॥९॥
समवेक्ष्याब्रवीद्वाक्य मिदंदशरथंनृपम् ।
प्राजापत्यंनरंविद्धि मामिहाभ्यागतंनृप ॥१०॥
सांतःपुरस्तदाराजा प्रत्युवाचकृतांजलिः ।
भगवन्स्वागतंतेस्तु किमहंकरवाणिते ॥११॥
अथोपुनरिदंवाक्यं प्राजापत्योनरोब्रवीत् ।

राजन्नर्चयतादेवा नद्यप्राप्तंत्वयाफलम् ॥१२॥

इदंतुमुनिशार्दूल पायसंदेवनिर्मितम् ।

प्रजाकरंगृहाणत्वं धन्यमारोग्यवर्धनम् ॥१३॥

भार्याणामनुरूपाणां अश्नीतेतिप्रयच्छवै ।

तासुत्वंलप्स्यसेपुत्रान् यदर्थंयजसेनृप ॥१४॥

(b) देशांतरेषुबहुविधभाषावेषादियेननज्ञातम् ।

भ्रमताधरणपीठे तस्यफलंजन्मनोव्यर्थं ॥ तथाच

विद्यावित्तंशिल्पं तावन्नाप्नोतिमानवस्सम्यक् ।

यावद्व्रजतिनभूमौ देशाद्देशांतरंहृष्टः ॥

अथतद्वचनमाकर्ण्य प्रहृष्टमनास्तेनैवसहगुरुजनानुज्ञातः शुभेहनिदेशांतरंप्रस्थितः ॥ तत्रचधर्मबुद्धिप्रभावेण भ्रमतापापबुद्धिनाप्रभूततरंवित्तमासादितम् ॥ ततःस्वतौद्वावपिप्रभूतोपार्जितवित्तौप्रहृष्टौ स्वगृहंप्रत्यौत्सुक्येन प्रस्थितौ ॥ उक्तंच

प्राप्तविद्यार्थशिल्पानां देशांतरनिवासिनाम् ।

क्रोशमात्रोपिभूभागः शतयोजनवद्भवेत् ॥

सावधानमनानित्यं राजानंदेवतांगुरुं ।

अग्निंतपस्विनंधर्मज्ञानवृद्धंसुसेवयेत् ॥

कस्यचिन्नस्पृशेन्मर्म मिथ्यावादंनकस्यचित् ।
नाश्लीलंकीर्तयेत्किंचित् प्रलापंनचकारयेत् ॥
यस्यास्तिवित्तंसनरःकुलीनः सपंडितस्सश्रुतवान्गुणज्ञः ॥
यस्यवर्णस्ययोराजा सवर्णस्सुखमेधते ॥

II. Translate into Sanskrit—

When Dasaratha heard Viswamitra's words, he consented to send his sons, Rama and Lakshmana, with the sage. Viswamitra started from the city of Ayodhya early in the morning, and was followed by Rama and Lakshmana. He told them pleasant stories on the journey, so that they forgot all their fatigue in the way. After reaching his hermitage, he began to perform the sacrifice, for the protection of which he got the assistance of the princes. He invited many sages, priests, and Brahmins, and assumed silence for six days, during which time the princes protected him. As soon as the ceremony was commenced, the giants came on all sides and began to throw stones, flesh, and blood, on the sacrificial ground and thus destroy the ceremony. But Rama took his bow and discharged arrows. Many of the giants were killed and many fled from the field of battle to save their life. He discharged on Maricha, one of their leaders, a missile called Mânava, which carried him many yojanas and threw him into the sea. He killed, also, Subahu, the second leader of the giants, by throwing on him a missile called Vâyavya. Viswamitra was much pleased with these acts, and said "O! Rama and Lakshmana, may prosperity and longevity be to you."

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

LATIN: TEXT-BOOKS AND GRAMMAR.

I. (*a*) Decline the nouns, adjectives, or pronouns to which the following belong:—Illius, dierum, vobis, divites, cordi.

(*b*) Give the comparative and superlative of gracilis and senex: the positive and superlative of pulchrior

and nequior: the positive and comparative of Imus and veterrimus.

(c) Give the principal parts of the verbs to which the following belong:—Ablatum, sublatum, oriens, fictum, juvērunt, fregēre.

II. (a) Mention two verbs that are followed by a genitive, two that are followed by a dative, and two that are followed by an ablative, illustrating the use of each by a short sentence.

(b) Distinguish between:—Nullus and nemo: quivis, ullus and quisquam: eum and se: singulus and unus: cum Pompeio and apud Pompeium: fugāre and fugĕre.

III. (a) Compound:—Inter with legere: pro with esse: ad with niti and with noscere: ad, ab and con with movere; and give the meaning of each compound.

(b) Form compound nouns from: Avis and spicio · privus and lex: arma and gero.

(c) Give the etymology of:—Opportunus, castellum, agricola, bipatens, tutus.

IV. Translate the following passages, and parse all the *nouns* in the first and all the *verbs* in the second:—

(i) Metelloque Numidia evenerat, acri viro, et, quamquam adverso populi partibus, fama tamen æquabili et inviolata.

(ii) Non prius aspicies, ubi fessum ætate parentem
Liqueris Anchisen? Superet conjunxne Creusa
Ascaniusque puer? Quos omnes undique Graiæ
Circumerrant acies, et, ni mea cura resistat,
Jam flammæ tulerint.

V. Explain the construction of the words in italics in the following passages:—

(i) *Lacrimis* æquare labores.

(ii) Cuncta equidem tibi, *fuerit* quodcumque, fatebor *Vera.*

(iii) Succedoque *oneri.*

(iv) Fuere qui exercitum in Africam mittendum *censerent.*

(v) Frustra autem *niti*, neque aliud, se fatigando, nisi odium quærere, extremæ *dementiæ* est.

VI. Give the official sense of the following titles, as used among the Romans:—Imperator, Quirites, Consul designatus, Senatus princeps, Legatus, Patres Conscripti, Quæstor.

VII. Translate, adding any necessary grammatical notes:—

(i) Plus in reliquum sibi timoris quam potentiæ addidit.

(ii) Sed quum Pœni aliam conditionem, tantummodo æquam, peterent, Græci optionem Carthaginiensium faciunt: ut vel illi, quos fines populo suo peterent, ibi vivi obruerentur: vel eadem conditione sese, quem in locum vellent, processuros.

(iii) Quos neque armis cogere neque auro parare queas, officio et fide pariuntur.

(iv) Ferro an fame acrius urgear, incertus sum.

(v) Heu! nihil invitis fas quemquam fidere divis.

(vi) Fas odisse viros, atque omnia ferre sub auras
Si qua tegunt: teneor patriæ nec legibus ullis.

(vii) Dixit, et extemplo, neque enim responsa dabantur
Fida satis, sensit medios delapsus in hostes.

(viii) Tum sic adfari et curas his demere dictis:—
Quid tantum insano juvat indulgere dolori,
O dulcis conjunx? Non hæc sine numina divum
Eveniunt.

VIII. Describe (in the words of Sallust, if you can) the character and rank of Marcus Æmilius Scaurus; and narrate the part that he took in the negotiations and war with Jugurtha.

IX. "Laocoon ardens summa decurrit ab arce
Et procul:—O miseri, quæ tanta insania, cives?"

Explain this by reference to the context, and describe the fate that befell Laocoon.

X. Translate into Latin:—

(i) He promised me to come.

(ii) I taught him music for nineteen years.

(iii) When you have finished, let me know.

(iv) I took care that no one should be spared.

(v) I asked whether it had happened at Rome, or at Carthage, or on the sea.

(vi) You sent soldiers to take from me by force the best slave I had.

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

LATIN: TRANSLATION.

1 Translate into English—

(1) Diverso interea miscentur mœnia luctu;
Et magis atque magis, quanquam secreta parentis
Anchisæ domus arboribusque obtecta recessit,
Clarescunt sonitus, armorumque ingruit horror.
Excutior somno, et summi fastigia tecti
Ascensu supero, atque arrectis auribus adsto.
In segetem veluti quum flamma furentibus austris
Incidit, aut rapidus montano flumine torrens
Sternit agros, sternit sata læta boumque labores,
Præcipitesque trahit silvas; stupet inscius alto
Accipiens sonitum saxi de vertice pastor.

(2) Tum vero omne mihi visum considere in ignes
Ilium, et ex imo verti Neptunia Troja;
Ac veluti summis antiquam in montibus ornum
Quum ferro accisam crebrisque bipennibus instant
Eruere agricolæ certatim; illa usque minatur,
Et tremefacta comam concusso vertice nutat,
Vulneribus donec paulatim evicta supremum
Congemuit, traxitque jugis avulsa ruinam.
Descendo, ac ducente deo flammam inter et hostes
Expedior; dant tela locum, flammæque recedunt.

(3) Ingens ara fuit, juxtaque veterrima laurus
Incumbens aræ, atque umbra complexa penates.
Hic Hecuba et natæ nequidquam altaria circum,
Præcipites atra ceu tempestate columbæ,
Condensæ et divum amplexæ simulacra sedebant.
Ipsum autem sumptis Priamum juvenalibus armis
Ut vidit: "Quæ mens tam dira, miserrime conjux,
Impulit his cingi telis? aut quo ruis? inquit.
Non tali auxilio, nec defensoribus istis
Tempus eget; non, si ipse meus nunc afforet Hector.
Huc tandem concede; hæc ara tuebitur omnes,
Aut moriere simul."

(4) Africam initio habuere Gætuli et Libyes, asperi, inculti; quis cibus erat caro ferina atque humi pabulum, uti pecoribus. Hi

neque moribus, neque lege, neque imperio cujusquam, regebantur: vagi, palantes, qua nox coegerat, sedes habebant. Sed postquam in Hispania Hercules, sicuti Afri putant, interiit; exercitus ejus, compositus ex variis gentibus, amisso duce, ac passim multis, sibi quique, imperium petentibus, brevi dilabitur. Ex eo numero Medi, Persæ et Armeni, navibus in Africam transvecti, proximos nostro mari locos occupavere.

(5) Erat haud longe ab eo itinere quo Metellus pergebat, oppidum Numidarum, nomine Vaga, forum rerum venalium totius regni maxume celebratum; ubi et incolere, et mercari consueverant Italici generis multi mortales. Huic consul, simul tentandi gratia et opperiundi, si paterentur opportunitates loci, præsidium imposuit. Præterea imporavit frumentum, et alia quæ bello usui forent, ratus id, quod res monebat, frequentiam negotiatorum et commeatuum juvaturam exercitum, et jam pacatis rebus munimento fore. Inter hæc negotia Jugurtha impensius modo legatos supplices mittere, pacem orare; præter suam liberorumque vitam, omnia Metello dedere. Quos item, uti priores, consul illectos ad proditionem, domum dimittebat, regi pacem, quam postulabat, neque abnuere, neque polliceri, et inter eas moras promissa legatorum exspectare.

(6) Corporis et fortunæ bonorum, ut initium, finis est: omnia orta, occidunt, et aucta senescunt: animus incorruptus, æternus, rector humani generis, agit atque habet cuncta, neque ipse habetur.

(7) (Not from text books.)

Terrenorum item commodorum omnis est in homine dominatus. Nos campis, nos montibus fruimur: nostri sunt amnes, nostri lacus: nos fruges serimus, nos arbores: nos aquarum inductionibus terris fecunditatem damus: nos flumina arcemus, dirigimus, avertimus: nostris denique manibus in rerum natura quasi alteram naturam efficere conamur.

II. Translate into Latin—

For about six years the Romans were engaged in war against Jugurtha. The Consul L. Calpurnius Bestia was first sent against him by the Roman senate. But Jugurtha, by offering him large sums of money, won him over to his cause. On the war being renewed, Sp. Postumius Albinus was made general of the Roman army. But he soon departed for Rome, to hold the comitia, and left the care of pursuing the war to Aulus, his brother, on whom Jugur-

tha inflicted an ignominious defeat. Here, however, ended Jugurtha's victories. Defeated in several battles by Metellus and Marius, he was at last taken prisoner by the latter, and brought to Rome, where he adorned his conqueror's triumph Then he was thrown into prison, where he died of hunger.

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

PERSIAN: TEXT-BOOKS AND GRAMMAR.

I. * سیامک برآمد برهنه تنا *
* بر آویخت با پورا هریمنا *

(a) Who is the author of the above line?

(b) What kind of "Alif" is used in اهریمنا and برهنه تنا

II. * پایه پایه رفت باید سوی بام *
* هست جبري بودن اینجا طمع خام *

(a) Explain what جبری means in the above line, and name the "ya" used in the word جبری

(b) Give the تقطیع of the above couplet.

III. (a) Define فعل لازمي and فعل متعدي with examples.

(b) What kind of verbs are the following:—

آورد — خواهد آورد — آورده شد — آورده خواهد شد *

(c) Give two examples of مصدر and of

متعدي به سه مفعول به دو مفعول

(*d*) Convert a مصدر لازم into مصدر متعدي بيک مفول and

مصدر متعدی بیک مفول into

مصدر متعدي بد و مفعول and سه مفعول

IV. Into how many parts is کلمه divided: define each part.

V. Convert the following words into اسم آله

عیار — قرض — ثقب — فتح — کیل — ریع *

VI. Give the meaning in English of the following expressions :—

شب کوک — گیرودار — خواب پیشین — سراندر کشیدن — دامن بدندان گرفتن — نیم تنه — وارونه گشتن — ول گفتن — ویرزدن — ویل کردن — دوریخهٔ نیم تنه بدوز — اوتوي اطاق من چه کند *

VII. Give Persian grammatical name of each به in the following sentences :—

* هیچ همدردي نمي یا بم سزاي خویشتن *

* مي نهم چون بید مجنون سربه پاے خویشتن *

* سر بسر چور قفسم چاک گریبان کردند *

* *کاررا برمن دیوانه چه آسان کردند *

* فراغتي به نیستان بوریا دارم *

* مباد راه درین بیشه شیر قالي را *

* بوے سر زلف تو بشیدائي من نیست *

* آوازهٔ حسن تو بر سوائي من نیست *

VIII. Parse the following words, using Persian terms :—

آورده شود — نیارد — نیاورده شود — نمي آرد — آورده میشود — آورده نمي شود *

IX. Give the singular forms of the following words :—

شرفا — کملا — ادله — اجنبجه — ارائک — اسرار — مشا هیر — امطار — شقائق — اوضا ع — مراحل — تماثیل *

X. Explain the صنعت in each of the following : —

(a) * من وتو هردو مائلیم اي شیخ *
* تو بمحراب ومن بابروے یار *

(b) * بهرا م روز کوشش و ناهید روز بزم *
* برجیس روز بخشش وخورشید روزبار *

(c) * زبهر آنکه همی گریدابر بي سببي *
* همین بخندد برابر لاله و گلزار *

(d) * اي ابرو زرین که هلال رمضان است *
* یا غبغب سیمین بت تنگ دهان است *

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

PERSIAN: TRANSLATION.

I. Translate into Persian—

In the first year of his Khalifate, Abu Bakr was hindered by the engrossing work of repressing apostacy and rebellion from being present at the yearly pilgrimage in Mecca. But next year he presided at the pilgrimage himself. As the party entered the vale of Mecca, the young men hastened to tell his father, who, blind from great age, was seated at the door. On his son's approach, he arose and stood up to greet him. Abu Bakr made his camel to kneel down at the threshold, and alighting, embraced his father, who was shedding tears of delight, and kissed him between the eyes. The great men of Mecca then came and shook the Khalif by the hand. His father said, "These be our nobles, honor them, my son, and make much of them." "Make much of them," answered Abu Bakr, "that I do; but as for honor, there is none save that which cometh from the Lord alone."

II. Translate into English—

(a) * بپوشید تن را بچرم پلنگ *
* که جوشن نبود آنکه آئین جنگ *
* پذیر شده دیو را جنگ جوي *
* سپه را چو روي اندر آمد بروي *
* سیامک بیامد برهنه تنا *
* برآویخت با پورا هریمنا *
* بزو چنگ وا ژونه دیو سیاه *
* دو تا اندر آورد با لائے شاه *
(b) * گفت آري گر توکل رهبر است *
* این سبب هم سنت پیغمبر است *

* گفت پیغمبر باواز بند *
* با توکل زانوي اشتر به بند *
* رمز الکاسب حبیب الله شنو *
* از توکل در سبب کامل مشو *
* در توکل جهد وکسب اولي تر است *
* تا حبیب حق شوي این بهتر است *
* همه کردهٔ شاه گیتي خرام * (c)
* دراین یک ورق کاغذ آرم تمام *
* سکندر که شاه جهان کرد بود *
* بکار سفر توشه پرورد بود *
* گر کسي وصف او زمن پرسد * (d)
* بي دل از بي نشان چه گوید باز *
* عاشقان کشتگان معشوقند *
* بر نیاید زکشتگان آواز *

عمارت بیکلر بیکي عمارت بسیار خوب است (e)
یلّها و هزاره دیوار پلّها همه از مرمر است عمارت بطور
فرنگي و ایرانی و عثماني و باین جهت بسیار خوش طرح
است همه اسباب اطاق از پرده و صندلي و نیم تخت و
میز و آئینه و چهل چراغ و جار بسیار اعلي و خوب است

با طاقها پارچهاي اعلاي فرنگي چسپانده‌اند پنجرها همه بلور يكپارچه است خيلي عريض و طويل و سنگين اما طوري ساخته اند كه يک بچه ميتواند باساني ساعتي ده دفعه بالا و پائين كند و بهر اندازه و هرجا هم بخواهد وا گذارد بدون چفت و ريزه و امداد مي ايستد و بدون خطر مى تواند سر را از زيرش بيرون كرد - عرض بغار از هزار ذرع متجاوز است كلوله تفنگ خوب ازين طرف بان طرف را ميزند - تالار بسيار وسيع با زينت خوبي در عمارت بكلر بيكي است *

بكي از مشايخ شام را پرسيدند كه حقيقت (f) تصوّف چيست گفت از اين پيش طايفهٔ بودند در جهان پراگنده بصورت و بمعني جمع و امروز قومي بظاهر جمع و بباطن پراگنده *

* چو هرساعت از تو بجائي رود دل *
* بتنهائي اندر صفائي به بيني *
* ورت مال و جاهست و زرع و تجارت *
* چنو دل با خُدا يست خلوت نشينى *

ايک صنجاقي بمن بده — پاشنه كش بيار — قدري (g) آب ملول بيار — خط او دميده است يا نه *

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

URDU: TEXT-BOOKS AND GRAMMAR.

I. ان ابیات کو سلیس نثر مین لکھو *

* حال بیتابي عیان اشکون سے سب پر ہو گیا *
* ترجمان دل ھمارا دیدۂ تر ہو گیا *
* بحر عالم مین ھی آفت لازم اہل کمال *
* ٹوٹنے کا خوف ھی قطرہ جو گوھر ہو گیا *
* جب جگہ ہین صاف طینت ایک ہي پست وبلند *
* آگیا پاني جہان سطحہ برابر ہو گیا *
* موذیون کي پرورش ہی باعث آزار خلق *
* خار صحرا جب ہوا بالیدہ نشتر ہو گیا *
* چرخ گردان هي ترقي مین تنزل کو نہ بھول *
* ماہ نو ھو کر قوي کیا جلد لاغر ہو گیا *

II. الفاظ ذیل کي معني انگریزی مین لکھو *

ہزار داستان — سوسمار — انفصال کرنا — کہکشان —
نشت شہادب — تناسخ — عقدانامل — شبچراغ —
ورق — ثوابت — خط استوا — پیرمغان *

III. الفاظ ذیل مین حروف معنوی کے کیا معنے ہین *

باغیچہ — ہولناک — طفلانہ — کترني — چشمک —

زرگر — پیاس — کڑوا هٹ — قبرستان — گرما — بھلا وا — موریلا *

IV. ان مرکب الفاظ مین ہر ایک جز کی معنی بتلاؤ *

انجان — وغیرہ — درازگوش — چشمۂ حیوان — گفت وگو — عالم فانی — مرغابی — رورنامہ *

V. ان جملون مین لفظ اور کے جدے جدے معنے بیان کرو *

(ا) زید اور بکر نے سبق پڑھا (ب) تم آتھہ اور خرابی آئی (ج) مین ہون اور تم ہو (د) سوال اور جواب اور (ھ) مین اور چلا کی کرون *

VI. ہر ایک کی مثال لکھو *

فعل مجاز — مصدر وضعی — اسم اشارہ — مرکب ناقص — جملہ فعلیہ — مفعول بہ — جملۂ معترضہ — بدل — اضافت توضیحی — تشبیہ مرکب — مجازمرسل لف و نشر *

VII. کیسا بناتے ہیں *

(ا) فعل مجہول (ب) امر تعظیمی (ج) متعدی بالواسطہ (د) فعل معطوف *

VIII. اس بيت كي تقطيع كرو *

* اي دل نجا زلفون مين اس صنم كى *

* ہر جين اس كي قيد ہى ستم كي *

IX. حروف ابجد مين لكھو *

4832. 100. 16 25. 9. 7

X. عبارت ذيل كے املا كي تصحيح كرو *

حمد و شكور اوس منيعم ہقيقي كو لائيق ہي جس نے روء زمين بر انوا واخسام كي نيعمتين پيدا كين اور پني خدرط كاميلا سے حيواناط كو ذاويۂ آرم سے ارضۂ وجود مين لاكر سورتين مقنليف بخشين *

MONDAY, 17TH DECEMBER, 2 TO 5 P M

URDU : TRANSLATION AND COMPOSITION.

ذيل مين درج كئي گئي گفتگو كا ترجمه اردو مين تحرير كرو *

Translate into Urdu—

A dialogue between Alexander and Diogenes

A. Diogenes.

D. Who calleth ?

A. Alexander. How is it that you would not come out of your tub to my palace ?

D. Because it was as far from my tub to your palace as from your palace to my tub.

A. Dost thou not reverence kings?
D. No.
A. Why so?
D. Because they are no gods.
A. They be gods of the earth.
D. Yea! gods of earth, (*i.e.*, *made of earth*).
A. If Alexander have anything that may please Diogenes let him know and take it.
D. Then take not from me what you cannot give me, the light of the world (*i.e.*, *stand out of the sun*).
A. What dost thou want?
D. Nothing that you have.
A. I have the world at command.
D. And I in contempt.
A. Were I not Alexander, I would wish to be Diogenes.

II. Subject of a short essay in Urdu—

بابت ذیل مین تا وسع امکان تحریر کرو *

The value (utility) of the use of Proverbs. Illustrate by examples.

ضرب الامثال کے استعمال سے کیا سہولت و منفعت حاصل ہوتي ہي معہٗ مثالون کے لکھو *

III. Translate into English—

ذیل مین درج کئے گئے نثر اوْر نظم کا ترجمہ انگریزي مین لکھو *

ملخ نے یہہ خطبہ نہایت فصاحت سے پڑھا - حمد و شکر اس منعم حقیقي کو لائق ہي جس نے روے زمین پر انواع و اقسام کي نعمتین پیدا کین اوْر اپني قدرت کاملہ سے حیوانات کو زاویۂ عدم سے عرصۂ وجود مین لا کر صورتین مختلف بخشین موجود تھا قبل زمان و مکان اوْر زمین

و آسمان کے جلوہ گر تھا نور و وحدت سے بے آلائش امکان
کے عقل فعال کو بے ترکیب ہیولا اور صورت کے نور بسیط
پیدا کیا بلکہ ایک کن کے کہتے مین پردۂ نیستي سے نکالکر
ساحت هستي مین موجود کر دیا بعد اس کے کہا کہ ای
پادشاہ اس گروہ کے ضعف و ناتوانی پر کچھہ غم نکر کیونکہ
خالق اُن کا جس نے پیدا کیا اور رزق دیا همیشہ خبرگیران
رهنا هي جس طرح کہ ما باپ اپني اولاد پر شفقت اور
مہربانی کرتے هین اسي طرح وہ بھي ان کے حال پر
رحم کرتا هي *

IV.

قاصد پھر آیا مخالفون کو سنایا کہ یہہ لڑکا اگرچہ خورد
سال هی مگر جري کمال هي تیور بے ڈھب هین لشکری
غصب هین تمھاري بے اِنتہا فوج سے نہ ڈرینگے دم مین
فتح کرینگے یہہ سنکر وے حیران هوے سراسیمہ و پریشان
پھرے - ایک حجام بولا کیون خوف کھاتے هو ڈرے جاتے هو یہہ
کون بڑا کام هی ایک ناخنگیر سے ترکي تمام هي - غرضکہ حجام
نے شہادت سلطان کا بیڑا اٹھایا سو اشرفي انعام پایا - جب
حضوري مین حاضر هوا تو حضرت نے فرمایا تو کون هی کہان
سے آیا - کہا قدیم سے مُسلمانون کا میراثي کہلاتا هون اب

سنگدلون کي چوٹي پکڑ مونڈ کھاتا ہون - چوٹي ان کي غلام کے ہاتھہ مین ہي ہر وقت مونڈنے کي گھات مین ہي •

V.

* بلندیون پر ہي اپني پستي یہہ اوج کس خاکسار مین ہي *
* پسند آئي فلک پرستي وہ سرفرازی غبار مین ہي *
* خوشي شب و روز روبرو تھي تبسم انگیز گفتگو تھي *
* ھمیشہ ہنس دینے کي جو خو تھي دہن شگاف مزار مین ہي *
* عجب طرح کي پڑي ہي مشکل ہوے ہین دو آفتبن مقابل *
* بدن کو قید کفن ہی حاصل کفن جو قید مزار مین ہي *

* نہ درویشون کا خرقہ چاہئے نہ تاج شاہانہ *
* مجھے تو ہوش دے اتنا رہون مین تجھپہ دیوانہ *
* غنیمت جان جو دم گذرے کیفیت سے گلشن مین *
* دئے جا ساقی پیمان شکن بھر بھر کے پیمانہ *
* نہ دیکھا وہ کہین جلوہ جو دیکھا خانۂ دل مین *
* بہت مسجد مین سر مارا بہت سا ڈھونڈا بتخانہ *
* کچھہ ایسا ہو کہ جس سے منزل مقصود کو پہنچون *
* طریق پارسائي ہوے یا ہو راہ رندانہ *

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

TAMIL: TEXT-BOOKS AND GRAMMAR.

I. அடியில் வரும் செய்யுடகளுக்குப் பொழிப்புரை யெழுதுக:

(a) மண்ணின்மேல் வான்புகழ் நட்டானு மாசில்சீர்ப்
பெண்ணினுட் கற்புடையாட் பெற்றானும்—உண்
ணுநீர்க்
கூவல் குறைவின்றித் தொட்டானுமிம்மூவர்
சாவா வுடம்பெய்தினர்.

(b) கோலஞ்சிவாழுங் குடியுங் குடிதழீஇ
யாலம்வீழ்போலு மமைச்சனும்—வேலின்
கடைமணிபோற்றிண்ணியான் காப்புமிம்மூன்
றும்
படைவேந்தன் பற்றுவிடல்.

(c) கமரழிந்த நீர்நாடன் காங்கேயன் வந்திங்கண்
அமரொழிந்து புற்கவ்வுமாகில்—உமதுரிமை
மண்ணகமாய்ச் செய்தந்த வாழ்வேந்தர் தம்மு
ரிமை
விண்ணகமாய்ச் செய்வேன் விடிந்து.
(விடிந்து என்பதற்கு வெடிந்து என்றும் பாட
முண்டு.)

(d) காலவிறுதிக் கடுங்கதிர்தான் காயெரிதான்
மாலைக்கருங்கடலமுன் மாருதந்தான்—வேலை
நிலையிறக்க நிற்குமோ நீள்சரங்கோத்தண்ணல்
தலையிறக்கஞ் செய்தபொழுது.

(1) வான்புகழ் - மாசில் சீர் - கடுங்கதிர்—இவைகளி
ல் தொக்குநிற்பதை விரித்துக் காட்டுக.

(2) கூவல்—இது வடமொழியா? அல்லது தென்
மொழியா? முன்கூறியதென்றால், அது எந்
த வடமொழியின் விகாரம்? எவ்வாறு வி
காரப்பட்டது?

(3) தொட்டான்—இதற்குப் பகுபத முடிபெழுதுக.

(4) கோல்—இதை யாகுபெயரொன்றால், எங்ஙனம்?

(5) தழீஇ—இதற்கு இலக்கணமெழுதுக.

(6) வீழ்—இது பகுபதமா? பகாப்பதமா?

(7) இம்மூன்றும்—மூன்று என்றஃறிணை முடிபு வந்ததற்கு விதியென்ன?

(8) அமைச்சன்—இது எவ்வடமொழியின் விகாரம்.

(9) காங்கேயன்—இதற்கு அர்த்தமென்ன? பெயர் வந்ததற்குக் காரணத்தையும் கூறுக.

(10) புற்கவ்வுதல்—இச்செய்கை எதற்குக் குறி.

II. (a) பீஷ்மன் மரித்தது எவ்வாறு? கதையைச் சுருக்கி யெழுதுக.

(b) அவனைப் பிதாமகனென்றழைத்ததேன்?

(c) 10-ம் நாள் யுத்தத்திற்குப் போகுமுன், அவர் செய்த சடங்குகளென்ன?

(d) அவர் சரசயனத்திற் கிடந்தபொழுது கர்ன்னன் புலம்பிப் பிரார்த்தித்ததைச் சொல்லும் செய்யுட்களின் கருத்தைக் கூறுக.

III. (a) "மூவேழிருபத்தொருகா லரசரெல்லாம் ஓவாது கொன் றேமஞ்செய்தான்." செய்தவனெவன்? அவன் சரித்திரமென்ன?

(b) "மாமுனிவன் சாபத்தால் வாளமரிற்பட்டது." சபித்தது யார்? சாபமென்ன?

(c) "மூப்பொழுதாய் மூன்றுலகாய், மூவுருவாய் நின்றானை" மும்மூன்றுகளை இன்னின்னவையென்று கூறுக.

IV. அடியில் வரும் மொழித் தொடர்களுக்கு அர்த்தமெழுதுக.

(a) ஒற்றைத்திகிரி யொளியோன்.

(b) கணக்காயரில்லாத ஆர்.

(c) ஊனுண்டுயிர்கட் கருளுடையே மென்பான்.

(*d*) முந்நீர்.

(*e*) காலக்களம்.

(*f*) மூன்று கடன் கழித்த பார்ப்பான்.

V. பிரான்ஸிஸ் கோவிற்குண்டான நன்மைகள் அனைத்தும் அவனுடைய நன்னடக்கையின் பயனல்லாது வேறல்ல வென்பதை நிரூபித்துக் காட்டுக.

VI. பீட்ரோ தான் சீர்திருந்தி செம்மையாய் வாழுதற்குக் கிடைத்த அவகாசத்தை யெவ்வாறிழந்தான்?

VII. இத்தாலியருடைய குணுகுணங்களைப்பற்றி பால வியாபாரிகள் கதையினின்று நீர் அறிந்ததை யெழுதும்.

VIII. (*a*) ஊழிறபெருவலி யாவுள மற்றொன்று
சூழினுந் தான் முந்துறும்.

(*b*) செயற்கரிய யாவுள நட்பின் அதுபோல்
வினைக்கரிய யாவுள காப்பு.

(*c*) அருமையுடைத்தென்ற சாவாமை வேண்டும்
பெருமை முயற்சிதரும்

(*d*) தன்னெஞ்சறிவது பொய்யறக பொய்த்தபின
தன்னெஞ்சே தன்னைச்சுடும்.

இச்செய்யுட்களுக்கு அர்த்தமெழுதி அவற்றில் இரண்டுமாத்திரம் கதையில் இன்னின்ன விடங்களில் அமைக்கப்பட்டிருக்கின்றனவென்றெடுத்துக்காட்டுக.

IX. (*a*) வினையெச்சங்களில் வினைமுதலையே கொண்டு முடிபவை எவை?

(1) ஞாயிறு பட்டுவந்தான்.

(2) மழைபெய்து நெல் விளைந்தது.

இவை இலக்கணத்திற்கு அமைந்தனவா? இந்த எச்சங்களைச் சாதாரண ரூபமாக மாற்றுக.

(b) (1) இல்வாழ்வானென்பான்.

(2) உண்ட சோறு.

இவற்றில், என்பான், உண்ட, இவ்விரண்டும் என்னபொருளில் வந்தன ?

(c) என வென்கிற இடைச்சொல் பண்புப்பொருளில் வருதற்கு உதாரணம் கூறுக.

(d) மூர்க்கனு முதலையுங் கொண்டது விடா.

இதில் உயர்திணைப்பொருள் அஃறிணை முடிபை ஏன் பெற்றது ?

(e) அடியில் வரும் மொழிகள் புணர்ச்சியில் எவ்வாறு வரும்.

(1) அன்று + கூலி.

(2) குணக்கு + திசை.

(3) கன்று + ஆ.

(4) பண்டு + காலம்.

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

TAMIL: TRANSLATION AND COMPOSITION.

I. Translate into Tamil :—[See Urdu Translation paper, p. xxx].

II. Subject of a short Essay in Tamil—

The value (utility) of the use of Proverbs. Illustrate by examples.

பழமொழிகளைப் பிரயோகிப்பதால் ஆகும் பயன் - திருஷ்டாந்தங்களால் விளக்கிக் காட்டுக.

III. Translate the following into English—

(a) - சுருங்கச்சொல்லில், எந்தவித்தையும் கற்றிருந்தால் வீண்போகாது என்பது எனது கோட்பாடு ; ஏனெனில் புத்தியினால் ஆகத்தக்க காரியம் கையினால் செய்யப்படுவதிலும் மேலேயன்றி அதற்குத் தாழ்ந்ததாகாது ; புத்திசாலிக்கு ஒருதரம் சொன்னால் அதுவே போ

தும்; அன்றியும் ஒன்றைக் கற்பதினால் திரவியம் சம்பாதிக்கலாமென்பதிருக்கட்டும்; ஒருவன் இயன்றமட்டும் படித்து வித்துவானாகி, படிப்பதிலும், கவராசத்தினால் அளவெடுத்து உருவங்களை வரைவதிலும், சித்திரவேலைசெய்வதிலும் பொழுது போக்குவது எத்தனை சந்தோஷமாயிராது? இப்படியிருப்பதானது பாலர் விர்த்தர் ஆகிய இருதிறத்தாருக்கும் உற்ற துணையாகும் - எவன் நல்லவிஷயங்களில் சிந்தையுடையவனாகியும், தான் தனித்திருக்கும்பொழுது அவற்றைச் செய்துகொண்டுமிருக்கிறானோ, அப்படிப்பட்டவன் தீங்கில் அகப்பட்டுக்கொள்ளான் - இது எனக்கு அனுபவசித்தம்.

(b) (1) சீலமறிவானிளங்கிளை சாலக்
குடியோம்பல் வல்லா னரசன் - வடுவின்றி
மாண்டகுணத்தான் றவசியென்றிம்மூவர்
யாண்டும் பெறற்கரியார்.

(2) மனிதர்களுக்கு எப்பேர்ப்பட்ட இடிவந்த போதிலும் கடவுள்பேரில் பாரம்போட்டு விட்டால் அவர் அந்த இடியைத் தலைத் துக்காப்பாற்றுவார் - நம்மால் நடக்கிறது ஒன்றுமில்லை.

(3) பளிங்குப்பாத்திரம் உடைந்துபோனால் அது மீண்டு பயன்படாததுபோல் ஒருதரம் நாணயந் தவறினால் அவ்வளவோடு நாணயமெல்லாம் போய்விடும்.

(4) கணிதம் நேத்திரம்போல மிகவும் முக்கியமானது; எந்தத் தொழிலாளிக்கும் கணிதம் தெரிந்திருக்கவேண்டும்.

(5) இதுவும் நான்செய்த பாக்கியம்தான்!

ஆ! கெட்டிக்காரனென்றால், முதலெழுத்துக்கூட எழுதக் கல்லாத உனக்கே தகும்!

படியாதவன் குலநலம் பேசுதல் எவ்வளவு சிறப்புடையது பார்!

N.B.—இக்கடைசி மூன்று வாக்கியங்களை மொழிபெயர்க்கும்போது அவைகளிலுள்ள மெய்யான கருத்து விளங்கும்படி பெயர்க்கவேண்டும்.

IV. Render the following into appropriate Tamil—

(*a*) Few things worth having are to be had without perseverance.

(*b*) To say the truth, he was in fault, and then to make matters worse, he began to lay the blame on his innocent servant.

(*c*) A good beginning makes a good ending—an honest boy will make an honest man.

(*d*) It is easier to overcome one difficulty after another than to encounter all at once.

(*e*) Nothing could be worse for a fever-patient than to bathe, though bathing is nothing to a healthy man.

(*f*) How much happier the world would be if every one in it tried to be kind. It is a very great mistake to say that grown up people can be kind, *children* can't.

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

TELUGU: TEXT-BOOKS AND GRAMMAR.

I. (*a*) భాగవతమునుఁ దెనిఁగించిన కవులంబేర్కొని, ఎవరెవరు, ఏయే భాగములఁ దెనిఁగించినదియుఁ జెప్పి, వారిలో నొక్కొక్కరుచేసిన యొక్కొక్క గ్రంథాంతరంబుఁ దెల్పునది.

(*b*) తెలుఁగు రామాయణ మేయే విధ కావ్యముగ నెవరెవరిచేఁ జేయఁబడియున్నది. ఆందలి కాండముల వరు

సంబేర్కొని, అయ్యయి తాండములలోని ముఖ్య వృత్తాంత మొక్కొక్క వాక్యమునం దెల్పునది.

II. (1) శతభిషగాధ్యుఁడుఁ సతతశంభువతంసమునయ్యు నోషధీ తతులకు నాధుఁడయ్యును సుధారసశేవధియయ్యుఁ దారకా పతితనరాజయక్ష్మభవబాధలఁ బాపఁగ నోఁపఁడక్కటా హతవిధికృత్యమెవ్వనికినైన జగంబున దాఁటవచ్చునే.

(2) అని యేలాలతికాకుడుంగములఁ జెన్నారంగనారంగచం దనమందారమరీచికా ప్రతతులందళ్కొత్తనిర్వంకలఁ ఘనగారుత్తరతత్త్వసంఘటిత భంగశ్రేణినాలోయకుఁ జనియెఁ రాముఁడు జానకీసహితుడై సౌమిత్రితా వెండి యఁ.

(3) ఘనరసగుంభనంబులు ప్రకాశిలనాటకరంగభూమికఁ జనములకింపుసూపిచను చారువిలాసినిమాడ్కిఁ బ్రావృడం గనవియదంగణంబున సుఖప్రద తాండవకేళిఁ దేలిక్ర న్ననదివివాయవాద్య కలనంబులు దక్కెఁబయోదబృంద ముల్.

(a) పై పద్యములకు దండాన్వయము వ్రాయవలయు

(b) 'వతంసము' అనుచో 'అ' కారము ముందుఁ జేర్చిన నర్థ మెట్లుమారు ?

(c) 'మరీచిక' అర్థాంతరమేమి ? కడపట యక్షరము లేకుండిన నాశబ్దమున కర్థమేమి ? 'క' పత్యయ మేయే యర్థములందు ప్రయోగింపఁబడుచున్నది. ఉదహరింపుఁడు.

(d) 'హతవిధికృత్యము.' ప్రతిపదార్థ సమన్వయముఁ జేయవలయు.

(e) 'అని యేలాలతికా.' ఏమని ?

(f) 'రాజయక్ష్మభవ బాధ' తారకాపతిం జెందఁగతంబె య్యాది. ?

(g) 'సుభద్ర' తద్ధిత రూపమెట్లు ?

III. (a) 'కటకట యామె కేమి దళగల్గును రాక్షసదుష్టచేష్టలన్' ఇవి యెవరిమాటలు ? సందర్భమేమి ? ఈ వాక్యమందు విశేషమేమి.

(b) 'దైవోపహతుండు వోపుకడకుం బోవుంగదాయావదల్' దీనికి దృష్టాంతముగఁ జెప్పబడ్డ విషయ మెద్ది ?

(c) 'దశావతార వనన్నిష్ఠితుఁడయ్యెముురారిదేనిచేన్.' దశావతారములను వరుసగఁ జెప్పి, ప్రతి యవతారమందుఁ జేయఁబడిన ముఖ్య కార్యమును, ఒకటి రెండు వాక్యములలో వ్రాయవలయును.

(d) "తనవలనఁ దొల్లింటి నెయ్యంబు గనంబడమిని 'ఎరుంగడో' మొఱుంగెనో, మఱచెనో, అని చింతించె." ఎఱుఁగుట, మొఱుఁగుట, మఱచుట, వీనికిఁగల పరస్పర భేదము లేమి ?

(e) యయాతి జరాభారంబును వహించిన పుత్రుఁడెవఁడు ? వహింపనొల్లని పుత్రులకు నొసఁగఁబడ్డ శాపం బెద్ది ?

IV. (a) పువ్విలుకాఁడు, తెలుపునెలుఁగు, క్రొమ్మేఘము, వెంబడి, ప్రోవవే, ఈ రూపము లెట్లుకలిగె ?

(b) అక్షౌహిణి, హిమవన్నగాభృత్సానుదేశంబు, ఏఁడుగడ, కరువలి, వీని న్విసంధిగ వ్రాయవలయు.

(c) ద్రిమ్మరు, వైచు, వీనికి కృదంతములును
సింగిణి, కేశాకూళి, వీనికి ప్రకృతిరూపములును } వ్రాయవలయు

(d) 'త్రైక్లుతమని' విసంధిరూపమెట్లు? ఈ ధాత్వర్థకము మఱి యేయే యర్థములయందు ప్రయోగింపఁబడుచున్నది. ?

(e) 'పతయే' 'తలెత్తుట' 'తరళాయతనేత్ర' 'అమృగంబు ఈ రూపములు వ్యాకరణ సమ్మతములా? సహేతుకముగ వ్రాయునది.

(f) ఇర్వంకలు, నాదుశాననము, వాతపోతములు, ఇవి యే సమాసములు? విగ్రహము లెట్లు?

(g) 'ఉపమానోత్తరపద కర్మధారయము' "మధ్యమపదలోప సమాసము" "అవ్యయోత్తరపద సమాసము" } వీనికి నుదాహరణము లీవలయు.

(h) పడు, పోవు, వీనికి ఆత్మనే పదార్థక ప్రేరణ కర్మార్థకమందు ఉభయ కర్మక ప్రార్థనాద్యర్థక రూపము లెట్లు?

భాసించు, జయించు, వీనికి బైఁజెప్పిన ధాతుర్థకమందే కర్తృర్థక రూపము లెట్లు?

V. (1) ఆతఱి నాఖగంబు వినయంబున రామునిఁ డానియేనునీ
———హితుండ———యనుదాని నుంతుండను
———నాతాత యనంగ జెల్లు———సారథి నాదు
తండ్రి———తమ్ముడం దెలియు మానను రామా
———నాముడన్.

పై పద్యమునందు విడువఁబడిన పదములఁ జేర్చి యర్థానుస్వారము లుండవలసినచో వాని నిల్పి వ్రాయునది.

(2) కరమునని త్యదానము ముఖంబున సూనృతవాణియాఁదలం
గురుచరణాభివాదన మకుంఠితవీర్యముదోర్యుగంబునన్

వరహృదయంబునఁ విశదవర్తనమంచిత విద్యావీనులఁ సురుచిరభూషణంబు లివిశూరులకుఁ సిరిలేనియప్పుడుఁ, శూరులు కానివారు, దానాదిక్రియాదిహితులయి ఎక్కార్యములఁ బ్రవర్తిల్లుదురు ?

VI. (a) ఐరావణసాది - ధర్మభృతముని - తనూనపాత్ - కృష్ణపధుఁడు - వికర్తనుఁడు - పరీక్షిత్తు - వీరలకీ పేళ్లెట్లు కలిగె ?

(b) శిఖి - కంకణము - ఎలుఁగు - మధువు - అంకము - వీనికి రెండేసి యర్థములు వ్రాయునది.

(c) శబరి - (వాలివధ వినివచ్చిన) తార - సుతీక్ష్ణుడు - వీరికిఁ జెప్పఁబడిన విశేషణము లేవి ?

(d) 'మిత్రుఁడీలక్షణముల మెలగుచుండు' ఏ లక్షణముల ?

VII దుష్యంతుని పేరోలగమునందు, శకుంతల వలికిన ముఖ్యాంశములను, ఒక పుట కతిక్రమించక వ్రాయవలయును.

VIII. (1) 'బలభూతియుదాయలకోడెనాజిలోఁ' ఈ దాయలలో ముఖ్యులగు ముప్పురఁబేర్కొనునది.

(2) 'ఈ భూమి నెలంగెడిఁ భృగుజభూరి భయంకరశాపముక్తమై.' ఏ భూమి ? భృగుజుఁడెవఁడు ? శాపమెద్ది ? శాపకారణమేమి ?

(3) పురూరవుని మొదలు భరతునివరకు, వంశక్రమ మెఱిగింపుఁడు.

IX. (1) తమ తర్జనీవి భ్రాసితనాసికా చంపకంబులె తాత్కాలికరోలంబసంజాత బాధానివారణంబులుకాఁ, &c

(2) ఓడలు బండ్లగును, బండ్లోడలగును.

(3) ఉన్నయింట చిచ్చు పెట్టుకొన్నట్లు.

(4) భూపాలకరత్నంబునుంబోలె నువచితధారాసంపాతంబైన, సత్పథసంప్రవర్తనంబునుంబోలె నిరస్తసంతాపంబైన వర్షాగమంబు.

వీని యర్థముల విశదపఱుపవలయు.

X. 'చంపకమాల' వృత్తలక్షణము లేమి? దిగువ వ్రాసియున్నపాదమును గణవిభజనఁజేయునది - దానినుత్పలమాలా వృత్తపాదముగఁ జేయనగునా? ఎట్లు?

'ఆనవుడులక్ష్మణుండు విశితాశినిడాసిశితాసినీడ్చిమున్'

'ఘనతరబుద్ధివికాసముతోనిటఁగల్గుజిలాశయమందెదనా'

వృత్తాదిభేదములలో నిది యెద్ది? వద్యమునకుఁ బేరేమి? గణవిభజనఁజేసి చూపవలయు.

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

TELUGU: TRANSLATION AND COMPOSITION.

I. Translate into Telugu—[See Urdu Translation paper, p. xxx.]

II. Subject of a short essay in Telugu—

The value (utility) of the use of Proverbs. Illustrate by examples.

సామితలవలని ప్రయోజనములఁగూర్చి దృష్టాంత సహితముగ వ్రాయవలయు.

III. Translate into English—

(1) శరసీసారససారసారభముఁ జంచన్నిర్ఝరీశైత్యముఁ
వరకల్హారపరాగముం గొనుచువీవఁ వాతపోతంబులే
రహిగ్రామరమావిభుండు బహుపక్షివ్రాత నానావిధ
స్వరసంశోభితచారుభూరుహవిరాజత్సౌధమార్గంబునఁ.

(2) అనిమారీచుఁడు రాముతోడి వగప్రాణాంతంబుగావించునీ
కనిబోధించిన రావణానురుఁడు రోషాయత్తచిత్తం బెసం

గనిదేనావనిఁజేయకున్న నినునీఖడ్గంబునంద్రుంతునం
చననెట్లైనను జావుసిద్ధమనిచేయంబూనె వాఁడవ్వనిఁ.

(3) తమకార్యంబుఁ బరిత్యజించియు బరార్థప్రాపకుల్సజ్జనుల్
దమ కార్యంబు ఘటింపుచుఁ బరహితార్థవ్యావృతుల్ మధ్యముల్
దమతైయన్యహితార్థ ఘాతుకజనుల్ దైత్యుల్ వృథా న్యార్థభం
గముగావించెడు వారలెవ్వరొ యెఱుంగఁ శక్యమేయే రికిఁ.

(4) ఆ దుష్యంతుండ ప్రతీప ప్రతాపవంతుడయి దిగ్విజయం
బుచేసి భూజనంబు లాయురారోగ్యైశ్వర్యంబులం
బొదల ధర్మపాలనంబు సేయుచు నెక్కనాడు మనో
జవంబులైన యుగ్యంబులంబన్నిన యరదమెక్కి సప
రి వారంబుగాఁ గాఁతారంబునకు వేటనోయి సము
ద్రంబును మందరాద్రియుంబోలె నయ్యడవినిగలం
చుచుఁ దత్పరత్వంబున నతిదూరంబు పోవందదీయర
థవేగంబను గమింపనోపక జోదులెల్ల దుస్సహక్షుత్పి
పాసాపరవశులై యచ్చటచ్చట శీతల తరుచ్ఛాయల
విశ్రమించిరి.

(5) శంతనుండును బరమానురాగంబున సత్యవతిని వివాహం
బై యతిమానుషంబైన యాభీష్ము సత్యవ్రతంబునకు
సంతసిల్లి యాతనికి స్వచ్ఛంద మరణంబుగా వరం
బిచ్చి సత్యవతియందుఁ జిత్రాంగద విచిత్ర వీర్యుల
ననిద్దఱఁ గొడుకులంబడసి వారలు సంప్రాప్తయౌవ
నులుగాకుండ శంతనుండు పరలోకగతుండైనఁ దం

డ్రికి భీష్ముండు పరలోకక్రియలు నిర్వర్తింపించిచిత్రాం
గు రాజ్యాభిషిక్తుండజేసిన నాతండును నతిగర్వాలోలుం
డై గర్వంబున నెవ్వరి శరకుగొనక సురదనుజ గంధ
ర్వాదుల నాక్షేపించుచున్నవానికి నలిగి చిత్రాంగ
దుండను గంధర్వపతి యుద్ధార్థియయి వచ్చినఁ గురు
క్షేత్రంబునందు నరగంధర్వాధిపులు నహీనబలులున
గు నయ్యిరువురు చిత్రాంగదులు సహింపక హిరణ్వ
తీతీరమున నొండొరుఁడాకి వీఁకఁబోరు సమయం
బున మాయా యుద్ధమందతి దక్షుఁడగు నా గంధ
ర్వుండు రవిలేఁజుడగు చిత్రాంగద మహారాజును
వంచనచేసి చంపెను.

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

KANARESE: TEXT-BOOKS AND GRAMMAR.

I. (a) మహాభారతదల్లి ఎష్టు పర్వగళుంటు? ధర్మరాయన రాజసూయయజ్ఞదరథెయు యావ పర్వదల్లదె? "జైమిని భారత" దరథెయు యావ పర్వదల్లి?

(b) "రాజసూయ", "అశ్వమేధ" ఇవుగళ అవయవార్థవేను?

(c) శిశుపాలను పూర్వజన్మగళల్లి యావ్యావ హింసరినింద ళిద్దను? ఆతను మట్టమొదలు యారు? ఆ జన్మగళన్ను హొందలిక్కె కారణవేను?

(d) నారదను మరుత్తనిగె హేళుత్తానె "అవను (సంవర్తను) నానిల్లిరువ సమాచారవన్ను తిళిసిదవరారెందు కేళిదరె నాను హేళి కెళ్ళిసొళ్ళిద్దంతిరుతు." నారదను కెళ్ళినల్లి

బిద్దర్దు సత్యమో? సుళ్ళాదరి, ఈ సుళ్ళు హిళిదేరే కాద అవశ్యవేను ?

(e) భీష్మాచార్యరు పారమార్థిక జ్ఞానవన్ను బోధిసి శిశుపాలన అజ్ఞానద విషయ ఆడిద మాతుగళు పద్యగళ అభిప్రాయవన్ను బరెయిరి. కన్నడభారతద రచియు యావ మతదవనెందు ఈ పద్యగళింద ఊహిసబహుదో?

(f) జ్వాలేయ రథియన్ను సంక్షేపవాగి బరెయిరి.

II. (a) కెళగిన పుగళిగె ప్రతి పదార్థవన్ను కొట్టు కొర్పయవన్ను హేళిరి. (1) నే (2) నే వాక్యగళల్లిరువ సమాసగళ హెసరేను ?

(1) ధారావిసరధూళి పరిస్ఫులింగప్రసర తేజః కేరగా పరిస్ఫురిత నవ్యశతభాను.

(2) అమల కరుణా ఖండ జలధియ భక్తజనకాఖండలద్రుమ.

(3) మేళవద తని వేళగుగళ మణి మాళి మండితరుప్పరద పడిసూళు పాయవ ధారినలి కొర్కరు.

(4) ఆ నిరంతర కుట్టిగళవ్వె । కూనిరర సందణి నవీనవి । కానవాయితు భూరిభారత వరుషద గలదలి ॥

(b) "పాండవరంతె భూభృద్వరనాగియూ, శోషిత వృకోదరనాగియూ, సన్నిహితార్జునసాగియూ, సముదితనకులనాగియూ, సహదేవ విలాసనాగియూ కాణిసితు." ఇదర శ్లేషార్థవన్ను వివరిసిరి.

III. (a) "యణ్ణు" సంధియందరేను ? ఉదాహరణెగళన్ను కొడిరి. ఈ సంధిగె "యణ్ణు" యెంబ హెసరు హ్యాగె బంతు ?

(b) "కృదంతె" లిందరేను ? కర్తృవాచకకృత్ ప్రత్యయ

గళిరడన్ను కర్మవాచకకృత్ ప్రత్యయగళిరడన్ను ఉదాహరణెగళ సహిత బరెయిరి.

(c) "కృద్వాచక విశేషణగళిగె పరవాద విశేష్యపదగళు సప్త విభక్తిగళ ఎల్లకార కార్థగళల్లి ఆ కృద్వాచెగళింద విశేషిసిద క్రియెగళిగె అన్వితవాగువవు." ఉదాహరణెగళన్ను కొడిరి.

(d) "ఈ యజ్ఞ సంకల్పవు నెరవేరువదు కష్టకరవెందు ననగె తోరుత్తిగె" ఇల్లి "కర" యెంబదు యావ అర్థదల్లి ప్రయోగిసల్పట్టిదె ?

IV (1) మునియ మాతిన బలెగె సిలుకెతు ।
జనపతియ చైతన్యమృగవీ ।
తనవబోవరుషదలి సనదవు కరణవృత్తిగళు ॥
మనదలంకురవార్తునాలిగె ।
గొనెయలెరడిలెయార్తు యజ్ఞద ।
నెనవు భారవాగెయలి బిద్దుదు ధర్మనందనన ॥

(2) పరిణతర నుడిగళిగె కివియోవు ।
కరిసిదవు దురుదుంబిగళబా ।
హిరర నుడిగళనడిగడిగె కుడిరుడిదు తేగిదవు ॥
కరసిదరు ఖళరను నీతియ ।
గరువరను నూకిదరురాయన ।
పరమయాగవనళియలసువాయిత్తు నృపకటక ॥

(a) మేలిన పద్యగళ అర్థవన్ను విశదవాగి హేళిరి.

(b) మొదలనే పద్యదల్లిరువ అలంకారద హెసరేను ? అదరల్లి ఉపమానోపమేయ సాధారణ ధర్మగళన్ను వివరిసిరి.

(c) "వజ్రోవరుష" యెంబదు యావ విధద సమాస ? అద
ర మధ్యదల్లి ఓకారవు హ్యాగె బంతు ?

(d) "నాలిగెగొనియలేరడిలేయాత్తు" ఇదన్ను సంధి
బిడిసి బరెయిరి. ఇదరల్లి బందిరువ సంధిగళిగె వ్యాక
రణ సూత్రగళన్ను హేళిరి.

(e) "అడిగడిగె," "కుడి కుడిదు." ఇవుగళన్ను వ్యక్తవాగి
బరెయిరి. ఈసమాసగళిగె హేసరేను? "నడువినడువి"
యెంబదన్ను సమాసమాడిరి. "సుత్తా సుత్తి" అందరేను ?
యావవిధద సమాస ? "రట్టిరువి" యెంబదన్ను వ్యక్త
వాగి బరెయిరి.

(f) మేలిన (2)నే పద్యదల్లి వ్యాకరణ విరుద్ధవాదద్దు
యేనాదరూ ఇద్దరి తోరిసిరి.

V (a) ఈ కేళగె సూచిసోణ్రాద పూర్వ రథిగళు యావవు ?

(1) ఇవను గడ జిర్కందు మొలెగొ ।
ట్టవళ హిండిదగందు భండియ ।
జవళిగాలలి మురిదన్నై మామాసమర్థనెలె ॥
సవడిమరనెగ్గిదవు గడమ్మై ।
యవజిదరి బలుగత్తిగూళియ ।
నివ విభాడిసిదనే.

(2) మున్న కడలింగె మురిదు తోదండదిం కాకుత్థసు
కృశాను బాణవం ప్రయోగిసిదంతె.

(3) ఒందు దందిన జయద్రథన రథి.

(b) శుకశాశన, అజపిత, సవ్యసాచి, శ్యామకేశ, పురంద
ర, పంకజాసన. ఇవుగళు యార హేసరుగళు ? హ్యాగె
ఒందవు ? సకోతువాగి హేళిరి.

VI (a) శ్రీ కృష్ణానుసాల్వర యుద్ధవన్ను వర్ణిసువాగ్యె కృ

ష్ణనన్ను ముగిలిగే ఈ పమానిసోఁగాగి లిచి. ఈలుప మేయన్ను పూర్ణవాగి వివరిసిరి.

(b) పరాక్రమ, కీర్తి, హుబ్బు, హిరళు. ఇవుగళిగే సాధారణవాగి కవీశ్వరరు కొడువ ప్రసిద్ధవాద ఉపమానగళు నీవు ఈ పరీక్షేగాగి శోధిద పుస్తకగళల్లి బందవే. ఆ ఉపమానగళు యావవు ?

(c) "ఇదం బణ్ణిసలాది శేషనిగూ లిసదళే" ఇదర కాళ్పర్యవేను ? ఆదిశేషను హిసరుయాకే ?

(d) నీవు ఈ పరీక్షేగాగి శోధిద పద్యకావ్యదల్లి విశేషవాగి శబ్దచిత్ర (అనుప్రాసముం కొడ్డు) ఉళిద్దిందు నిమగే కోరిద పద్యవన్ను బరెయిరి.

VII. (a) కెళగే బరెదవుగళ కాళ్పర్యవన్ను హేళిరి.

(1) సురమహిళెయర కోళిసలి కోరువేను.

(2) ఇన్ను నీను సుతోచనాంధర.

(3) మల్లనాళ కుళగిరి వజ్ర.

(4) సాగరోపాంత్యద నరేంద్రరు భోగిసిద ముక్తుగళు.

(5) రోషమిగే హోగరిత్తి కైశిశుపాలవీరన వచనమయ ఖడుగ.

(6) సురతోరదలి పాండువిసోలగకేబళ ఋణగు నురరిగే సమయవిల్లింద.

(b) కెళగే బరెద వాక్యగళు యావ సందర్భగళల్లి బందవే ? ఇవుగళు సూచిసువ అర్థవేను ?

(1) ముదుగూగే మిచ్చదు రవియను.

(2) కుంబియ మల్లిగెయ గంధవన్ను సహిసిదంతే సంపిగెయ నాసనెయన్ను కొళలాదీతే ?

(3) నిన్నదరదొళు నానావిధద జంతుగళు నిలేగొం
డిల్లవే ?

మూరనే వాక్యద గూఢార్థవన్ను హేళబేకు.

VIII. (a) "వైశ్వానరనే, సకల సచరాచరద హొరగొళగిల్ల
ముం నీనే వ్యాపిసిరి" ఇదు అనుభవసిద్ధవో ? సహే
కువాగి హేళిరి.

(b) "నిమ్మడియ పదవనజవిదు సీసరవలే మిన్నుత్తమాం
గదలి." ఇదరల్లి శబ్దదోషవాగలి అర్థదోషవాగలి
ఇద్దరె తోరిసిరి.

(c) 1. వర విరుషిగళాజ్ఞె యలి విశ్వం
భరన విషయా కరిసి

2. త్రిదశరిగె సరితూర సామ
ర్థ్యదలి శుద్ధ శ్రాతసన్నా
గదలి శివశివ రాజవిరుషిగళలామహీంతళకే॥

గీరితాకిద పదగళన్ను సంధిమాడిరి. ఆ పదగళన్ను సంధిమా
డి బరిదరె, ఆ పద్యగళిగె భంగోభంగ బరువదో ? కారణగళ
న్ను తోడిరి. (2)నే పద్యద మొదలనే చరణక్కె భంగప్రస్తా
వరన్ను తోడిరి.

IX. (a) "సాష్టాంగవిరగు" అందరేను ? "ప్రద్యుమ్నన ఐదు
బాణగళు" యావవు ?

(b) ఓళు, ఆర్పిదు, సొంద, హొరవంటా, ఆంతు, ఎజ్జుత్తు,
ఎజ్జే. ఈ క్రియారూపగళు నిమ్మ పుస్తకగళల్లి బందవే.
ఇవుగళ ధాతుగళన్ను అర్థసహిత హేళిరి.

(c) ఆ రాత్రిక, క్రమురక, పల్యయన, ఆందోలికా, ఘూర,
పంథ్యా, ఘరికా, ప్రసాద. ఇవుగళ తద్భవ రూపగళు
పుస్తకగళల్లి బందవే: బరియిరి.

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

KANARESE: TRANSLATION AND COMPOSITION.

I. Translate into Kanarese—[See Urdu Translation paper, p. xxx.]

II. Subject of a short Essay in Kanarese—
The value (utility) of the use of Proverbs. Illustrate by examples. (సామెతగళప్రయోగద ఉపయోగ. ఉదాహరణెగళన్ను కొట్టు వివరిసిరి)

III. Translate into English—

(1) నీతివిడిదరసింగె బహుళ।బ్యాతవదు జనరాగరాగ।
వ్రాతదింధనధనదిపరిరరపరిరరదిజయవు॥
ఆత్త జయదింధర్మధర్మస।మీతదింనురుతుష్టితుష్టియ।
నీతియిందిడువరవగెలు వైరాయనీనేంద॥

(2) అరసురాక్షసమంత్రియెంబవపొ। రవహులివరివారహుద్దిన।
నేరవి బడవర బిన్నపవనిన్నారుకేళువరు॥
ఉరిపురిపురితిదిచేశనావిం । నిరలుబారదినుత్తజనచే।
సరినచేగెయ లిరదలే భూపాలకీళేంద॥

(3) శూరధీరరసుదారధర్మా । ధారవివిధవిచారసుజనా।
ధారరిపుసంహార చతురోపాయసాకార॥
సారమంత్రవిచారభువనా । ధారనుజనస్వామికార్యా।
గారనేనిసువమంత్రియంటీరాయనినగేంద॥

(4) రవియాకాశకేభూషణం;రజనిగాజంద్రంమహాభూషణం;
కువరర్వంశకేభూషణం;నరసిగంభోజాతగళ్ భూషణం;
కవియజ్ఞాళిగేభూషణం;సకిగేపాత్రివ్రత్యవేభూషణం;
రవియాస్థానకేభూషణం,నరనరాకేళ్ బుద్ధియంమానవా.

(5) అళియనసుకాణదివిదభాసు।కొళలిజేదనసుజరరనానా।
హుళువవలి, హుళ్ళియలినగరంగళలినగకులదా।

బళిగళలి బళిరవరుకాణదె। కూళలసాదరు. భీష్మ
కనుమగ।
కుళివకాణదిరండసొందను మానసౌధనవా॥

(6) నృజిసిదనుసుద్దియనునృపభూ।భుజరనగరంగళలినిషధన।
నిజదవనికెగిపునఃసోయంవరవెందు జరరిందా।
నిజవరియదళియాశెయలిభూ।భుజరుబరుశిదరుకణాకేళ్
లిజకుఘారకునూర బళికాకుండినీపురకేం.

(7) ఆ సమయదల్లి సాల్వనెంబచైశ్యనశిష్యనాద లినుసా
ల్వనెంబవను శిష్యంగానం కొందకృష్ణనొళుపూర్వ
వైరవంస్మరిసి కుగేకిరిసికొళ్ళ లైశందు నూయా
వియాదుదరిం మోసవాగి లంకరిక్షదింబగ్గనే ధుమ్మి
క్కి కుదురెయం కొందు నిగేసు పోగి యుద్ధక్కి
కక్క సమఘమియొళిరిసి కొండు లిదర సుత్తలూ
పద్ధినాకారమాగి కన్న సైన్యమంనిల్లిసి ప్యూహ
ముఖదొళుకొనే ధనుర్బాణ పాణియాగి నింతు
కొళగక్కనువాగి సుధారనెంబ సజీవంగే సేనె
యంసన్నద్ధ మాగిరలేందు నియమిసిదను. లినిక
కొళుకరుణి యరకండవెల్లవు కిందరికేదరిపోదుదు.
మునిగళంజిదరు. శూరరు బిసువందవన్నేది బిరగాదరు.
హిరియరుకుళ కుళిగొండరు. ధర్మజంకల్లణిసిదను.
భీమార్జునప్రద్యుమ్న సాత్యకి వృషకేతు మో
ఘనాద ప్రముఖర్ విస్మితరాగి కురియంసోడిదరు.
సైన్యదొళ్ హాహాకారముంటాగి శ్రీకృష్ణం
చైశ్యన సాహసక్కి మెచ్చికలే రూగి లిఱుకు నమ్మ
కుగేయననుజనంనావందే కొల్లదుళిసిదుదరింద న
మ్మొళ్ మత్సరవిట్టవం నమ్మినిబరం వంచిసి ప్రత్య

ಕ್ಷದೊಳೆಯ ಜ್ಞಾಶ್ವಮಂಕೊಂಡೊದ್ದುನದರಿಂ ನಾವದಕೆ ನಾಚುವೆವು. ಮುಂದೆಮ್ಮವರೊಳು ಆರಾದೊಡಂಮಿಡು ಕುಳ್ಳಶೂರರಿರೆ ಪಗೆಗಳಿಂಗೆದ್ದು ಕೇಜಿಯಂ ಪಿಡಿಕೆಪ್ಪುದವರಿಗೆ ಕೇವೀಳೆಯವೆಂದನು.

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

MALAYALAM: TEXT-BOOKS AND GRAMMAR.

I. (a) പാണ്ഡവർ കാട്ടിൽ പോകുവാൻ സംഗതി എന്ത?

(b) ഇവരും സുയോധനാദികളും തമ്മിൽ വൈരത്തിന്നു എന്തുകാരണം.

II. (a) പാത്രചരിതം തുള്ളലിൽ തമിഴ പദങ്ങൾ അധികമായി ഉപയോഗിച്ചിരിക്കുന്നു. 6 ഉദാഹരണങ്ങൾ എഴുതുക.

(b) പാത്രചരിതത്തിൽനിന്നോ കൃഷ്ണാർജ്ജുനവിജയത്തിൽനിന്നോ 6 മലയാളപദങ്ങളും 6 തത്ഭവപദങ്ങളും എഴുതുക.

III. (a) പഞ്ചമിവിഭക്തി-ഭാവരൂപം - ഏ അവ്യയം - ഇതുകളുടെ പ്രയോഗങ്ങ എന്ത?

(b) സന്ധി എന്നത എന്ത? ഇത എത്രവിധം. ഉദാഹരണ സഹിതം എഴുതുക.

IV കാററുവീശുന്നു മഴപെയ്യു; ദുഃഖോം സുഖമാം; കെട്ടിയിട്ട നായ്ക്കുപ്പ എല്ലാം ചോറു; ഭക്തിപഠിക്ക താൻ കേൾക്ക താൻ ചെയ്യുന്നവൻ;

ഇതുകൾ ഏത വ്യാകരണ സൂത്രങ്ങളുടെ പ്രയോഗങ്ങൾ?

V താഴെ എഴുതിയിരിക്കുന്ന പദങ്ങളുടെ അൎത്ഥങ്ങൾ പറക. ദ്ധ്വജം-ആനകളിക്ക - നികടെ - അദ്ദ്യവാരിജാരിപ്രിയൻ - ഭിക്ഷ - അമളി - കിളുമ്പി - അത്ത്യൽഫുടംയമനിയമാദി - താക്കി-കരുമന - മക്കം-ഉപ്പ്പ്പ - ഊഴിയം അഞ്ചി.

VI. (a) "വയമിവനെബന്ധനം ചെയ്യപാശങ്ങളാൽ മുരമഥനസന്നിധൌകൊണ്ടു ചെന്നീടുക."

ഇതിൻെറ ഉത്തരം കവിയുടെ വാക്കിൽതന്നെ എഴുതുക.

(b) "കറാൻ ദൈവം കൊടുത്തതാണന്നുള്ള തിലക്കു ഇത തെളിവതന്നെ" ഏത?

VII (a) മഹമ്മത എന്ന ജനിച്ചു.

(b) ഹജീറാ എന്ത.

(c) മഹമ്മദിൻെറ ഭാൎയ്യമാരുടെ പേരുകൾ പറക.

(d) ഹലൈമ - അശ്ശ - ഉമ്മർ - അബുതാലേബ് ഇവർ ആർ.

VIII. താഴെ എഴുതിയിരിക്കുന്ന വൃത്തങ്ങളിൽ സൂചിപ്പിച്ച കഥകളെ ചുരുക്കമായി എഴുതുക.

(a) മാധവവിജയന്മാരിവരോൎത്താൽ
ബോധിച്ചീടുകരണ്ടല്ലരച.

(b) സൌദാനപാത്രമഹതപത്താലഥ.

(c) സരസാപണ്ടൊരുമാചനിമിത്തം
സുരസംഘത്തെസപദിശപിച്ചു.

IX താഴേ എഴുതിയിരിക്കുന്നതുകളുടെ അൎത്ഥം വ്യക്തമായി പറക.

(a) ശൈശവത്തിങ്കൽ തന്നെ ഉത്ഭവമായിട്ടുള്ള വൈദിക ദിഗ്വിലോചനകൾക്കു ഇപ്പൊൾ വൈഭവം കൂടിയ ബുദ്ധിയും * * * പ്രയാണങ്ങളിൽ സമ്പാദിച്ച ശ്രുതികളും എല്ലാംകൂടി മഹമ്മതിനെ ധ്യാനനിരതനാക്കുവാനും സമാധിയിൽ ഇരുത്തുവാനും ഇടയാക്കി.

(b) കേവലാത്മാവായപരമൻെറ പൂജ.

(c) ധ്യാനനിഷ്ഠനായി ലൌകീക സംഭ്രമങ്ങൾക്കു അനുചിതമായ സമാധിയിലിരിപ്പായി.

(d) ധിക്കൃതമാനസഗയനാമവനും
ദിക്പാലാധിപസഖ്യമദാസ്ഥാൻ

(e) പ്രാരബ്ധദുഃഖഗഹനാനലരൂപവിഷ്ണോ
മാരാരി മാനസസദാശരണംഗതോസ്മി.

(f) ചെന്നേവാളുകൊടുത്താൽപിന്നെ
നന്നെക്കാളൊരുപൌരുഷമേറും.

X മേൽ ചോദ്യത്തിൽ കീഴവരയിട്ട പദങ്ങളെ വ്യാകരിക്കുക.

XI. (a) പാന്ത്രചരിതം എഴുതിയ കവിയുടെ അഭിപ്രായപ്രകാരം പാണ്ഡവരുടെകൂടെ കാട്ടിൽപോയ ആളുകൾ എവിടേ ഉള്ളവർ? കവിപറയുന്നതശരിയൊ. അല്ലെങ്കിൽ എന്തുകൊണ്ട.

(b) ക്രിഷ്ണാജ്ന വിജയം കഥപുരാണ സംബന്ധം അല്ലാത്തതെന്ന പറവാൻവല്ല ലക്ഷ്യങ്ങളും കവിതയിൽ തന്നെ ഉണ്ടൊ.

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

MALAYALAM: TRANSLATION AND COMPOSITION.

I. Translate into Malayalam—[See Urdu Translation paper, p. xxx.]

II. Subject of a short essay in Malayalam—
The value (utility) of the use of Proverbs. Illustrate by examples

(പഴഞ്ചൊല്ലുകളുടെ ഉപയോഗത്തിനാലുള്ള ഉപകാരം ഉദാഹരണസഹിതം.)

III. Translate into English—

(a) ഇനിയും സാധിപ്പിക്കേണമെന്ന ഹാബീബ പറഞ്ഞത ഇതിലും പ്രയാസമേറിയ ഒരു കാര്യമായിരുന്നു. അതൊ? പകൽ നട്ടുച്ചനേരത്ത അന്ധകാരം നിറെക്കുകയും ചന്ദ്രനെ കീഴ്പ്പെട്ട ഇറക്കി കേബക്ഷേത്രത്തിൻെറ അഗ്രത്തിൽ നിത്തുകയും വേണമെന്നായിരുന്നു. നിബിക്ക ഇതിന്ന യാതൊരുപ്രയാസവും ഉണ്ടാ

യില്ല. നിബി കല്പിച്ചതേ ഉള്ളു. പകല ത്തെവെളിച്ചമെല്ലാംഓടി ഒരു ഇരുട്ടുവന്ന പരന്നു ചന്ദ്രൻ സ്വഗതിതെററി ചുഴലുന്നത കാണായി നിബിയുടെ എതിരില്ലാത്ത വിക്രമശക്തിയാൽ ചന്ദ്രനെ ആകാശത്തിന്ന താഴത്തെക്ക വലിച്ച കേബയുടെ മുകളിൽ നിൎത്തീ. ചന്ദ്രൻ കേബയെ ഏഴ പ്രദക്ഷണം വെച്ച നിബിയെ കുമ്പിട്ട വണങ്ങി. ജ്വലിക്കുന്ന വാൾ പോലേ നിബിയുടെ സന്നിധിയിൽനിന്ന വിളയാടി. നിബിയുടെ കുപ്പായത്തിൻെറ വലത്ത കയ്യുറയിൽകൂടി പുറപ്പെട്ട പിന്നെ രണ്ടായി ഭിന്നിച്ച ഒന്ന കിഴക്കോട്ടും മററത പടിഞ്ഞാട്ടും പോയി ആകാശമദ്ധ്യത്തിൽ ഒന്നിച്ചുകൂടി പണ്ടെത്തെ പാട്ടിൽ വിളങ്ങുവാൻ നിബി കല്പിച്ചതും ചന്ദ്രൻ ഒട്ടും മടികൂടാതെ അനുസരിച്ചുപോൽ. നിബിയുടെ വിചിത്ര മാഹാത്മ്യങ്ങൾ കേട്ടതപോരേ?

(b) അമരാവതി എന്ന പട്ടണത്തിൽ രാമദാസൻ എന്നൊരു വിദ്വാൻ ഉണ്ടായിരുന്നു. അദ്ദേഹത്തിൻെറ കീഴിൽ വളരെ ബാലന്മാർ വിദ്യ അഭ്യാസിച്ചുവന്നിരുന്ന. തൻെറ ശിഷ്യരിൽ ഗുരുപരമ്പരജ്ഞാനമുള്ളവരെ തിരിച്ചറിവാൻവേണ്ടി

ഒരു ദിവസം എല്ലാവരേയും തൻെറ സമീപം വരുത്തി ഒരോ മാമ്പഴം കൊടുത്തു "ഇത ആരും കാണാതെ ഒരു ദിക്കിൽ പോയി തിന്നുവൎത്തു" എന്ന പറഞ്ഞ ഓരോ കുട്ടിയും ഓരോ മൂലയിൽ പോയി പഴം തിന്നുവന്നു. ഒരു ബാലൻമാത്രം, മാങ്ങ ഇടുത്ത മടങ്ങി വന്ന ആരും കാണാതെ പഴം തിന്നാൻ കഴിഞ്ഞില്ലെന്ന പറഞ്ഞത കേട്ട മററവർ പരിഹാസം തുടങ്ങി. അതകണ്ട ഗുരു ആ ബാലനെ നോക്കി "ഇവിടെ വളരെ മുറികൾ ഇല്ലയൊ? അതിൽ ഒന്നിൽ പോയി വാതൽ അടച്ച മററവർ തിന്നതപോലെ തനിക്കും അരുതെ" എന്ന ചോദിച്ചു. അതിന്ന ശിഷ്യൻ "ഞാൻ അങ്ങിനെ എല്ലാംനോക്കി എവിടെപോയാലും ഞാൻ തിന്നുന്നത ദൈവം കാണും എന്ന എനിക്ക തോന്നിയത കൊണ്ട മടങ്ങി വരേണ്ടിവന്നു" ഇത കേട്ട ഗുരുവിന വളരെ സന്തോഷമായി

(c) യദുക്കൾ തങ്ങടെ ഗൎവ്വം അടക്കി വെക്കണം നിങ്ങൾ, പട്ടത്വം തങ്ങളിലുറന്നവൎക്കുണ്ടോ രഹംഭാവം; തുണെപ്പാൻ നിങ്ങളും ചെന്നാൽ പിണക്കം കൃഷ്ണനുമെറും; നശിച്ചു പാണ്ഡവരെന്നാൽ

നമുക്കു സ്വല്പയും തീൎന്നു, ജയിച്ചു ഫൽഗു
ണനെങ്കിൽ തുണെച്ചു എന്നതും വന്നു.

(d) പട്ടിയങ്ങുരുളയുംകൊണ്ടുചെല്ലുമ്പോളുവൻ
കാട്ടുന്നഗോഷ്ഠികണ്ടാലെല്ലുത്രയുംചിരിയാകും.
വട്ടത്തിലോടുംപിന്നെവാലങ്ങുവിറപ്പിക്കും.
മുട്ടുകൾകുത്തിക്കുനിഞ്ഞുഴിയിൽപററിത്താഴും
പെട്ടെന്നുദാതാവിൻെറവക്ത്രവംഉദരവും
ഒട്ടൊട്ടുനോക്കിച്ചിലശബ്ദങ്ങൾപുറപ്പെടിച്ചു
ഇങ്ങിനെവികൃതികൾകാട്ടാതെഭക്ഷിപ്പാൻതൻ
ചങ്ങാതിക്കൊരുനാളുംസംഗതിവരുന്നില്ല
കുംഭിരാജനുതിന്മാൻവാശ്ശതുംകൊടുത്തെന്നാൽ
സംഭ്രമംകൂടാതവൻമെടിച്ചുഭക്ഷിച്ചീടും;
തന്നുടെവിദ്യകൊണ്ടുംതന്നുടെശൌൎയ്യംകൊണ്ടും
തന്നുദരത്തെപൂരിപ്പിക്കുന്നവൻമഹാധന്യൻ്[ൻ
ശ്വാവിനെപോലെ കിഴിഞ്ഞാശ്രയിച്ചുണ്ണുന്നവ
കേവലംകൃമിപ്രായംഎന്നതെചൊൽവാനുള്ളു.

(e) മിത്രദ്വേഷം ചെയ്യുതിനായി, ശത്രുജനങ്ങ
ളു മൊത്തുനിരന്നു, ശത്രുവിനെ പരിപാ
ലിക്കുന്നതു ചിത്രം ചിത്രമിതെത്രയു മു
ചിതം, അധമന്മാൎക്കു സഹായം ചെയ്യാ
ൽ വിധമിവണ്ണമിതെന്നു പ്രസിദ്ധം

(f) എന്നാൻ അസത്യത്തിൽ തരഭേദങ്ങൾ ഉണ്ടു.

(1) ഇല്ലാത്ത കാൎയ്യമന്ന അറിഞ്ഞിരിക്കുന്നതി

(2) ഉള്ളതും ഇല്ലാത്തതും കൂടെക്കൂട്ടി കലർത്തി പറയുന്നതും

(3) പറയുന്നത ഉള്ളതു തന്നെ ആയാലും കേൾവിക്കാരനെ വഞ്ചിപ്പാനായിട്ട പറയുന്നതും ഇങ്ങിനെ അസത്യത്തെ മൂന്ന തരമായി വിഭാഗിക്കാം.

TUESDAY, 18TH DECEMBER, 10 A M TO 12 30 P M

ARITHMETIC

I A cistern, whose capacity is 43 092 gallons, is to be filled with water by a pipe which conveys 23 gals 1 qt per minute On account of a leakage the cistern is only just filled in 31½ hours What is the average amount of leakage per hour ?

II I sold some goods weighing 13 cwts 2 qrs 9 lb for £72 17 7½, gaining thereby 3½*d* per lb How much should I have gained per lb if I had sold them at £5 12 0 per cwt ?

III If 40 men and 50 boys can do a piece of work in 6 days, working 6 hours a day, in how many days will 8 men and 20 boys do a piece of work half as large again, working 7 hours a day, assuming that a man does as much work in 3 hours as a boy in 5 hours ?

IV Three equal circular wheels revolve round a common horizontal axis with different velocities The first makes a revolution in 5½ minutes the second in 2⅔ minutes, the third in 3⅞ minutes Three marks, one in each wheel, are in a horizontal line at a certain moment What is the shortest interval after which they will be in a horizontal line again ?

V Find by practice the cost of 475 tons of coal at £2 16 8 per ton If this is sold again for £1,453 10 0, what is the whole gain, and what the gain per cent ?

VI *A* and *B* start on a journey at the same time *B* travels at ⅘ths of *A's* rate, and arrives 3 hours 15 minutes after him In what time did each complete the whole journey ?

VII. If an investment of £75 becomes £78-15-0 in eight months, what sum invested at the same rate of interest will become £201-17-6 in ten months?

VIII. Simplify the expression—

$$\frac{\sqrt{75\tfrac{1}{8}} - 6\tfrac{7}{8} \text{ of } \cdot\dot{7}\dot{2}}{5\tfrac{2}{3} - \sqrt{2\tfrac{24}{81}}} - \frac{10\tfrac{8}{11}}{3\cdot\dot{3}9 \times 3}.$$

IX. A and B started on a race and ran a certain distance exactly together. Then B began to fail and gave up the race when he had run 56 yards further, A having gone during the same time 320 yards. The average of the entire distances run by the two men was 1,188 yards. What distance had they run together?

TUESDAY, 18TH DECEMBER, 2 TO 3-30 P.M.

ALGEBRA.

I. If $V = 5a + 4b - 6c$, $X = -3a - 9b + 7c$, $Y = 20a + 7b - 5c$, $Z = 13a - 5b + 9c$, calculate the value of $V - (X + Y) + Z$.

II. Divide a by $a - 2x$ to six terms.

III. Separate $12x^4 + x^2y^2 - y^4$ into three factors.

IV. Reduce to their simplest forms—

(a) $$\left(\frac{ap^2 - aq^2 + 2bpq}{p^2 + q^2}\right)^2 + \left(\frac{bq^2 - bp^2 + 2apq}{p^2 + q^2}\right)^2$$

(b) $$\frac{xy + 2x^2 - 3y^2 + 4yz + xz - z^2}{2x^2 - 9xz - 5xy + 4z^2 - 8yz - 12y^2}.$$

V. Find the square root of—

$$\frac{4x^2}{9y^2} - \frac{x}{z} - \frac{16x^2}{15yz} + \frac{9y^2}{16z^2} + \frac{6xy}{5z^2} + \frac{16x^2}{25z^2}.$$

VI. Solve the following equations:—

(a) $$x - \frac{x-2}{2} = 5\tfrac{3}{4} - \frac{x+10}{5} + \frac{x-2}{4}.$$

(b) $$ax + by = 1 = bx - \frac{b}{a} + ay - \frac{a}{b}.$$

(c) (1) $x + y + z = 1.$

(2) $ax + by + cz = 0.$

(3) $a^3x + b^3y + c^3z = abc.$

VII. A merchant engaged two writers, their pay being Rs. 60 for the first month, with a fixed monthly increase afterwards. They agreed to serve for one year, and each of them placed in the merchant's hands a deposit, to be forfeited in proportion to the part of the year during which he might not serve. One remained at his post 7½ months, and received for salary and portion of deposit returned Rs. 537. The other remained 10 months, and received in like manner Rs. 728-5-4. What was the monthly increase? And what the amount of the deposit?

WEDNESDAY, 19TH DECEMBER, 10 A.M. TO 12 NOON.

GEOMETRY.

I. Define a trapezium, a rhombus, a rhomboid, a gnomon. What is a "locus"? Illustrate the same.

II. Describe an isosceles triangle of which each angle at the base is equal to one-fourth of the angle at the vertex of the triangle.

III. If a straight line fall upon two parallel straight lines, it makes the alternate angles equal to one another, and the exterior angle equal to the interior and opposite angle on the same side.

If the bisectors of the angles adjacent to one side of a parallelogram meet on the opposite side, what will be the proportion between two adjacent sides of the figure?

IV. Prove that the area of a trapezium with two sides paralle is equal to the rectangle contained by the perpendicular distance between the parallel sides and half their sum.

V. To describe a parallelogram that shall be equal to a given triangle, and have one of its angles equal to a given rectilineal angle.

VI. The angle at the centre of a circle is double of the angle at the circumference upon the same base, that is, upon the same part of the circumference.

APQB is half, and PQ the fourth part of the circumference of a circle. If the chord AQ, BP, intersect in C, prove that the difference between the squares on AQ, QC is double of the rectangle under BP, PC.

VII. In a circle equal chords are equally distant from the centre, and of unequal chords the greater is nearer to the centre than the less.

If from any point in the circumference of the exterior of two concentric circles, two straight lines be drawn touching the interior and meeting the exterior, the line joining the points of contact will be parallel to and half of that joining the points of intersection.

WEDNESDAY, 19TH DECEMBER, 2 TO 5 P.M.

HISTORY OF INDIA.

I. Who was the founder of Buddhism? With what kingdom was the spread of Buddhism in India closely connected?

II. What was the greatest of all the earliest Rajput dynasties, and who was the greatest of all its kings? How did the latter secure the favour of the Brahmans, and how has he been rewarded by them? About what time did he probably live?

III. (1) Name the principal early kingdoms of Southern India;
(2) Give roughly their geographical position;
(3) Name the capitals of three of them.

IV. (1) Who was Salivahana, and for what is he famous?
(2) At what period did he live?
(3) How is his name perpetuated?

V. When did the Portuguese first come to India, and what was their object? What were their first settlements, and with what Indian kingdoms did they come in contact?

VI. Who is known in history as the "first Peshwa?" When was he appointed? What powers did the Peshwas gradually acquire? When and why was the last of the Peshwas deposed?

VII. Write down in a table of *three* columns—
(1) the names of the emperors of the Mughal dynasty;
(2) the dates of their accession;
(3) the principal conquests of each.

VIII. (1) What circumstances at first favoured the extension of the Mahratta power? and
(2) What weaknesses in their political organization led to their overthrow?

IX. What led to the *last* war with Tippu? Describe the movements of the British army which resulted in the capture of Seringapatam. What territories were added to the British possessions at the close of this war?

X. Explain clearly what reforms in the land tenure were introduced by Todar Mall, Warren Hastings, and Lord Cornwallis.

XI. Mention six important social reforms and material improvements during the last forty years, and the names of the statesmen with whom they are associated.

XII. Write historical notes on the following:—Ramanujachari, Malik Kafur, Count Lally, Baxar, Panipat (1526), Chillianwalla.

THURSDAY, 20TH DECEMBER, 10 A.M. TO 12 NOON.

GEOGRAPHY.

I. Upon what circumstances does the temperature of a place chiefly depend? Account for the following facts:—

(1) Although Edinburgh is in the same latitude as Moscow, the intense cold of the winter of the latter place and the heat of its summer can be ill-endured by a native of the former.

(2) The summer of Lapland is very hot.

II. (*a*) Define *peninsula* In what direction do peninsulas generally stretch? Name the exceptions and give their locality.

(*b*) What is an *island?* When a number of islands are grouped together, what name is given to them? Give an example and state its geographical positions

(*c*) *Capes* are sometimes called by other names. Illustrate this by three examples—one from Norway, another from England, and a third from Ireland.

(*d*) When is the mouth of a river called an *estuary?* Mention another name by which an estuary is sometimes called.

III. What is the population of the Madras Presidency? Which of the collectorates, excluding Madras, is densest in population?

IV. Of the twenty-one districts of the Madras Presidency, name those that do not lie along the coast, and state any commercial products connected with any three of them.

V. Name—

(1) the highest mountain peak in Ceylon;

(2) a group of islands midway between Madagascar and the mainland of Africa;
(3) the capital of Madeira;
(4) the strait between Sumatra and Java;
(5) the Switzerland of Asia;
(6) the largest lake in Europe;
(7) the great cotton port of England;
(8) the garden of Europe;
(9) a river that flows into the Gulf of California;
(10) a lake in the north of South America connected with the sea.

VI. Where and what are the following—

(1) Mahavili Ganga.	(6) The Sierras.
(2) Tamatave.	(7) Formosa.
(3) The Escurial.	(8) The Landes.
(4) The Minch.	(9) Liim Fiord.
(5) Yokohama.	(10) Stromboli.

VII. Draw a map of the *Sea of Japan*, naming the islands on the east and the divisions of the mainland on the west by which it is formed.

VIII. What is the length of the river *Ganges?* Describe its course from its source to its mouth, naming its tributaries and six of the most important towns upon its banks—*three* on the right and *three* on the left.

IX. Name three *African* rivers that flow into the Atlantic, and three *Asiatic* rivers that flow into the Arctic ocean.

THURSDAY, 20TH DECEMBER, 2 TO 5 P.M.

PHYSICS.

I. Define velocity, force, and cohesion.

II. How can you determine the exact direction in which gravity acts at any place? If this direction be determined at different places on the earth's surface, will the lines be found to be parallel to each other?

III. Describe the water-level and state clearly the principle on which its action depends.

IV. What is *specific gravity?* Show by a numerical example, other than that in your text-book, how you would find the specific gravity of a solid.

V. Why does the mercury in a barometer stand higher at the foot than at the top of a mountain? What practical use can be made of this?

VI. Define *work* and explain how it is measured mechanically. What is the relation between *work*, *mass*, and *velocity?*

VII. How is an echo caused? Standing between two cliffs, I give a shout and hear two echoes; how could I calculate how far the cliffs are apart?

VIII. What is latent heat? Two pounds of ice at 0°C is heated till it has all passed off in steam; compare the amount of heat spent in this case with that required to raise the temperature of ten pounds of mercury from 0° to 100°C.

IX. In laying a railway line, the engineer leaves a space between the ends of the rails; why is this done? How could you calculate what space should be left?

X. Two large bottles, one filled with water, the other half with water and half with air, are tightly corked; a tube open at both ends is passed through the cork of each and reaches nearly to the bottoms of the bottles. Describe what would happen if these bottles were carried up in a balloon.

CHEMISTRY.

I. What takes place when—

(1) Potassium is thrown on water;

(2) Phosphorus is burnt under a bell-jar placed over water and the white fumes allowed to dissolve; and

(3) When the liquids thus obtained are mixed, and then evaporated to dryness?

II. If a watch-spring were burned in a close vessel of oxygen, would the weight of the vessel and its contents be altered by the combustion? Give reasons for your answer.

III. Of how many different parts does the flame of an ordinary candle consist? Mention the substances found and the changes taking place in each.

IV. Explain the terms "combustible" and "supporter of combustion" as applied to gases, and why hydrogen and chlorine may be either according to circumstances.

V. Describe an experiment by which diamond may be distinguished from common rock-crystal.

VI. From what materials are the following substances prepared:—Nitric acid, phosphorus, lime, plate-glass, flint-glass, chlorine, saltpetre, and silver chloride?

VII. Name the gas which is given off when sulphuric acid is heated with common salt and black oxide of manganese; and state how blue litmus paper would be affected by an aqueous solution of the gas.

VIII. What weight of carbonic acid is obtained by burning fifty grains of carbon, and what weight of oxygen by heating the same quantity of mercuric oxide?

FIRST EXAMINATION IN ARTS, 1883.

SATURDAY, 15TH DECEMBER, 10 A.M. TO 1 P.M.

ENGLISH POETRY.

Paradise Lost, IV; the *Lay of the Last Minstrel*; and *Elaine*.

I (1) State the argument of the Fourth Book of *Paradise Lost* under five heads (they need not exceed a line each).

(2) "Till pride be quelled and love be free" has been said to be the motto of the *Lay*.

Very briefly show this, noting how the 'Ladye's' attempt to frustrate the prophecy led to its fulfilment.

(3) Show how the falsehood uttered by Sir Lancelot in the beginning of the poem affected the course of the story, stating what it was, what was his object, and how the plot is developed from it.

The answer to each of the above should be brief,—like the synopsis of a chapter.

II. (1) Milton gives his reader his choice of the Copernican and the Ptolemaic systems. Show this by giving the substance of the passage referred to.

(2) "*Wherefore* all night long shine these? *For whom*
This glorious sight, when sleep hath shut all eyes?"
Give (in not more than two or three lines) the substance of Adam's answer to each of these questions

(3) In what two respects is Eve compared to Pandora?

(4) By what name is Satan mentioned—

(1) when he leaped into the garden;

(2) when abashed at the rebuke of Zephon?

(5) Quote the passages in the Fourth Book of which the following remind you:—

(*a*) "Enow of such as for their bellies' sake
Creep and intrude and climb into the fold."—*Lycidas*.

(*b*) "Thou madest him a little lower than the angels."—*Psalm* viii, 2.

(c) "When the soft dews of kindly sleep
My wearied eyelids gently steep."—Keble.

(6) Explain the allusion in—
"Your learned hands can loose this gordian knot."

(7) What are the two epithets Milton uses in describing the nightingale? Give, in a single sentence for each, the substance of the context.

III. (1) Explain *briefly* the following statements:—

(a) "It is Scott's object in the (three) songs in Canto VI to exemplify the *different styles of ballad* narrative which prevailed in this island at *different periods* and in *different conditions of society*."—Jeffrey.

(b) "The sixth Canto is altogether *redundant*. But what could I do? I had my *book* and my *page* still on my hands."—Sir W. Scott.

(2) What is the topic of the prelude to Cantos II, III, and V? (Answer thus,—the topic of the prelude to Canto VI is 'Love of one's country.')

(3) What connection has the prelude of Canto VI with the Epilogue of V?—*i. e.*, what called forth "Breathes there the man, &c.?"

(4) Briefly describe the funeral of Musgrave, noting at least five points in connection with it.

(5) Write after each of the following the place or country mentioned in the *Lay* as then famous for it:—silk, wine, fur, swords, baldrics, ruffs.

IV. (1) Quote Tennyson's simile for the onslaught of the knights on Lancelot.

(2) Give his expression to describe the rising of the sun, (or the break of day).

(3) "Who would not sing for Lycidas? He knew
Himself to sing and build the lofty rhyme."
Quote a similar lively turn in *Elaine*.

V. Explain by close (but idiomatic) paraphrase—

(1) With such delay
Well pleased they slack their course, and many a league,
Cheered with the grateful smell, old Ocean smiles.

(2) To say and straight unsay, pretending first

Wise to fly pain, professing next the spy,
Argues no leader, but a liar traced.

(3) This evening from the sun's decline arrived
Who tells of some infernal spirit seen
Hitherward bent.

(4) Cold diffidence and age's frost
In the full tide of song were lost.

(5) Then her blue eyes their secret told,
Though shaded by her locks of gold.

(6) Hence! ere the clan his faintness view;
Hence with the weakling to Buccleuch!

(7) To doubt her fairness were to want an eye,
To doubt her pureness were to want a heart.

(8) Had he seen her first
She might have made this and that other world,
Another world for him.

VI (1) Give the meaning of *apply, amiable, accomplished, individual, purpose, propriety* as used by Milton, illustrating each by a word or two from the context.

(2) (*a*) "*Had* his powerful destiny ordained
Me some inferior angel, I *had* stood
Then happy."

(*b*) "He swore *it* should be dearly bought
That ever he the arrow drew."

Write (*a*) using *were* for *had* in each place, and (*b*) omitting the *it*;—making only such other changes as are absolutely necessary.

(3) Write a brief note on each of the italicised words in—

(*a*) More woe, *the* more your taste is now of joy.

(*b*) Arthur *let* proclaim a joust in Camelot.

(*c*) It *lets* me from the saddle.

(*d*) Let *there* be prepared a chariot-bier.

(4) Illustrate from Tennyson the difference between *hard* and *hardly*, in composition.

(5) Write down the equivalent of *one* in the following,—a different word in each case:—

(*a*) This was the *one* discourtesy that he used.

(*b*) As *one* continued brake the undergrowth
Of shrubs and tangling bushes, &c.

(6) Derive *planet, hight, grotesque, emblem, marshall, damsel, uncouth, burgher, penance.*

SATURDAY, 15TH DECEMBER, 2 TO 5 P.M.

GREEN'S READINGS, PART I: STEPHEN'S JOHNSON.

I. (*a*) Why is Cadmon's paraphrase called "the first *true* English poem"?

(*b*) Quote two epithets that are applied to Chaucer in the text, and compare the manner in which he produced the Canterbury Tales with that in which Tennyson wrote the Idylls of the King.

(*c*) Contrast the tendency of the cultivation of learning in Europe during the Middle Ages with the modern tendency.

II. (*a*) Distinctly refer to (without narrating) one memorable incident in each of the following battles.—Hastings, the Standard, Bannockburn, Cressy.

(*b*) Show how the constitution and functions of the Great Council of the Realm before 1265 differed from those of Parliament after that date;

or

Describe the political influence of Stephen Langton.

(*c*) What is meant by (1) the great Survey, (2) the Bayeux Tapestry, (3) the king's chattels, (4) investiture, (5) Friar Bacon's invention, (6) the precious Oriflamme?

III. (*a*) Paraphrase—

(1) He had no help: he yielded to the pinch of the argument without confessing that he felt it.

(2) "O king, we are all dead men." "Peace! or thou diest at my hand."

(3) For all the danger he was in, he could not resist an inclination to sleep.

(4) For as little noise as the traitor made in rising, he was wakened by it.

(5) This comes of cumbering ourselves with a ribald crew.

(*b*) In the following passage, show the meaning of the nicknames and the irony they were meant to express:—

"The taunts of the Norman nobles, who nicknamed

the king and his spouse Godric and Godgifu, were lost in the joy of the people."

IV. (*a*) Make short sentences appropriately introducing—to win his spurs, to take the veil, to hit off a character, to be one's man.

(*b*) Give the meaning of—aquiline nose, a secular clerk, a maiden knight, a skilful leech, a sumpter horse, a horse-laugh.

(*c*) The following words occur in a sense different from the ordinary:—churl, coroner, grammarian, hundred, park?

V. (*a*) Enumerate Johnson's contributions to the periodical literature of his time.

(*b*) Show what is meant by "Johnson's style is characteristic of the individual and *of the epoch.*"

(*c*) "Novelists were *not yet* the rivals of dramatists." What is implied by the words in italics? Name the contemporary novelists, giving Johnson's opinion of any of them.

VI. (*a*) Who were Johnson's "masters," and what is meant by "his tendency to pomposity was not redeemed by the *naïveté* and spontaneity of his masters?"

(*b*) Quote Goldsmith's taunt about Johnson's "tendency to pomposity," and define "mannerism."

(*c*) In the following extract point out three well-marked characteristics of Johnson's style:—

"In acquired knowledge, the superiority must be allowed to Dryden, whose education was more scholastic, and who, before he became an author, had been allowed more time for study, with better means of information. His mind has a larger range, and he collects his images and illustrations from a more extensive circumference of science. Dryden knew more of man in his general nature, and Pope in his local manners. The notions of Dryden were formed by comprehensive speculation; and those of Pope by minute attention. There is more dignity in the knowledge of Dryden, and more certainty in that of Pope. Poetry has not the sole praise of either; for both excelled likewise in prose; but Pope did not

borrow his prose from his predecessor. The style of Dryden is capricious and varied; that of Pope is cautious and uniform. Dryden observes the motions of his own mind; Pope constrains his mind to his own rules of composition. Dryden is sometimes vehement and rapid; Pope is always smooth, uniform, and gentle. Dryden's page is a natural field, rising into inequalities, and diversified by the varied, exuberance of abundant vegetation; Pope's is a velvet lawn, shaven by a scythe and levelled by a roller."—LIVES OF THE POETS, *Pope.*

(*d*) In what respects are the styles of Johnson and Macaulay similar to each other, and in what respects are they different?

VII. (*a*) State as clearly as you can Johnson's opinion of (1) poetry, (2) history, (3) MacPherson's Ossian, (4) John Wilkes.

(*b*) What is meant by "his habitual pessimism," and how does it appear in his works?

(*c*) Who or what is meant by each of the following:—(1) the greatest master of harmony in the (English) language; (2) the great contemporary Maecenas; (3) Grub Street; (4) the most remarkable of his (Johnson's) Grub Street companions?

(*d*) Explain the allusions in (1) a rough Dominie Sampson, (2) a struggling Parson Adams.

VIII. (*a*) Johnson has been called a "bear." State (1) generally in what circumstances Johnson's manners might be expected to be bearish; (2) particularly three facts or incidents which prove that he also possessed qualities the opposite of bearish.

(*b*) Explain "the one recorded instance of a Johnsonian blush."

IX. (*a*) Estimate Johnson's powers as a conversationist and Boswell's as a biographer.

(*b*) Explain Johnson's apothegm that "patriotism is the last refuge of a scoundrel," and quote Johnson's definition of a "lexicographer" and of a "pensioner."

MONDAY, 17TH DECEMBER, 10 A.M. TO 1 P.M.

ENGLISH LANGUAGE.

I. Paraphrase—

Let him that will, ascend the tottering seat
Of courtly grandeur, and become as great
As are his mounting wishes: as for me,
Let sweet repose and rest my portion be;
Give me some mean obscure recess, a sphere
Out of the road of business, or the fear
Of falling lower; where I sweetly may
Myself and dear retirement still enjoy:
Let not my life and name be known unto
The grandees of the time, tost to and fro
By censure or applause; but let my age
Slide gently by; not overthwart the stage
Of public action; unheard, unseen,
And unconcerned, as if I ne'er had been.

II. Turn the following passage into prose without paraphrasing it, making only such changes as the prose idiom requires:—

Yet went she not, as not with such discourse
Delighted, or not capable her ear
Of what was high: such pleasures she reserved,
Adam relating, she sole auditress;
Her husband the relater she preferred
Before the angel, and of him to ask
Chose rather.

III. (1) What is the chief difference between modern English and old English as regards the *grammar* of the language?

(2) In English there are many pairs of words of Latin origin, radically the same (*e.g.*, *prosecute* and *pursue*). Did the longer or the shorter form usually come first into the language? Give reasons for your answer.

(3) Write down the Saxon equivalents of *contradict*, *providence*, and *famine*; and distinguish between the meanings of *unload* and *exonerate*, *kingdom* and *reign*, *sunny* and *solar*.

IV. (1) Addison says, "The same single letter *s* on many occasions does the office of a whole word, and repre-

sents the *his* and *her* of our forefathers" Explain clearly how this mistake originated. Elsewhere, in his "Humble Petition of Who and Which," he makes the petitioners say, "We are descended of ancient families, and kept up our dignity and honour for many years, till that Jacksprat *That* supplanted us." Show that the petitioners' claim to be the only relative pronouns, or even the original ones, was unfounded.

(2) Point out the antecedent of the relative in (*a*); give the construction of the words in italics in (*b*); and say which of the two sentences in (*c*) you consider to be the more correct, and give your reasons for thinking so:—

(*a*) He cannot thrive,
Unless her prayers, *whom* heaven delights to hear,
Reprieve him from the wrath of greatest justice.

(*b*) Your highness
Shall from this practice but make hard your heart:
Besides, the *seeing* these *effects* will be
Both noisome and infectious

(*c*) She made the best proverbs of any one, he only excepted.
She made the best proverbs of any one, him only excepted.

V. (1) Mention the different ways in which nouns may be formed from verbs, and give an example of each kind of formation.

(2) Explain the italicised portions of shame*faced*, burg*lar*, cover*let*, and *country*-dance; and give the derivation of *miscreant*, *furlong*, *preposterous*, and *villain*, and show how these words have come to bear their present meaning.

(3) Give three examples of (*a*) words used formerly in a sense different from their present sense; and (*b*) words that are not now accented as they were in such a writer as Milton.

VI. Point out anything that appears to you to be faulty in the following passages, and clearly state your reasons for thinking it so :—

(*a*) At the same time, I usually qualified my denial by stating, that, had I been the author of these works, I would have felt myself quite entitled to protect my secret by refusing my own evidence.

(*b*) Do not, as some ungracious pastors do,
Show me the steep and thorny way to heaven;
Whiles, like a puff'd and reckless libertine,
Himself the primrose path of dalliance treads.

(*c*) For the Spaniards, though terrible visitors in other respects, did not at once create a famine in those parts which they occupied, by reason of the comparative smallness of their numbers.

VII. (1) Give the meaning of the expressions in italics in the following extracts :—

(*a*) He crimes invented, *left unturn'd no stone*
To make my guilt appear, and hide his own.

(*b*) The attempt to reconcile the contending factions failed. Baxter *cast in his lot with* his proscribed friends, refused the mitre of Hereford, and gave himself almost wholly to study.

(*c*) In the matter of learning, many of us are fain to be day-labourers, and to live *from hand to mouth*, being not able to lay up anything.

(2) Name and define the figures that occur in—

(*a*) The same critical trifler has spent some of his many hours of laborious idleness in hunting up cacophonies of various sorts in Plato.

(*b*) One of the few, the immortal names
That were not born to die.

(*c*) The Niobe of nations, there she stands,
Childless and crownless in her voiceless woe.

VIII. (1) Explain the following terms :—*rhyme, rhythm, accent,* and *emphasis*.

(2) What is a *foot?* Divide the following lines into feet, and mark the accented syllables :—

(*a*) Give their roof to the flame and their flesh to the eagles.

(*b*) And a grateful coolness drops as from an angel's wing.

(*c*) And flashing round and round and whirl'd in an arch.

IX. Write an essay of not more than two pages on *one* of the following subjects :—

The choice of a profession.

The advantages of introducing scientific agriculture into Southern India.

MONDAY, 17TH DECEMBER, 2 TO 5 P.M.

PHYSIOLOGY.

FOOD AND DIGESTION—

I. (*a*) What purposes does the food fulfil in the body?

(*b*) What equivalent proportions of the nitrogenous and non-nitrogenous foods must be consumed to keep an adult man in health?

(*c*) What quantity of work should such a healthy body be capable of performing in 24 hours?

II. (*a*) Prove that a living human being is constantly exerting mechanical force.

(*b*) Why have foods been classified as heat-producers and tissue-formers?

(*c*) Show that this classification is inaccurate.

(*d*) What is hunger?

III. (*a*) Describe the process of mastication, and the various movements which are produced by muscular action.

(*b*) Is there any analogous action in gastric digestion?

(*c*) What chemical action is produced on food during its sojourn in the stomach?

CIRCULATION—

IV. (*a*) What are capillaries?

(*b*) How are they disposed in the body?

(*c*) What is meant by the term "extra-vascular" tissues?

(*d*) Describe the structure of a blood-vessel.

(*e*) By what means do the tissues obtain their supplies from the blood-vessels?

V (*a*) What are valves?

(*b*) Name the parts of the circulatory system from which they are absent.

(*c*) How does a valve at a cardiac orifice differ anatomically from a valve in a vein?

(*d*) What office do they serve in the economy?

VI. (*a*) What mechanism prevents the valves in the heart from being forced in a backward direction?

(*b*) Describe a cardiac "rhythm."

(*c*) At what part of the chest can the beating of the heart be felt?

(*d*) Account for the absence of pulsation in the capillaries

RESPIRATION—

VII. (*a*) In what manner do the lungs assist the other organs of elimination in the body?

(*b*) What is the pleura? And name any other analogous structure in the body.

(*c*) What part does the diaphragm play in the respiration?

(*d*) Mention any circumstances which modify the respiratory processes.

SECRETING STRUCTURES—

VIII. (*a*) Describe the structure of the skin.

(*b*) What distinction is recognised between "sensible" and "insensible" perspiration?

(*c*) What products of waste are removed by the skin?

(*d*) Upon what does the amount of loss of water by the skin depend?

IX. (*a*) Describe the anatomical arrangement of a secreting gland.

(*b*) Why is the term "ductless" gland inaccurate?

(*c*) Classify the various secreting glands met with in the digestive and renal systems.

(*d*) By what means is the secretion of a gland increased?

TUESDAY, 18TH DECEMBER, 10 A M TO 1 P M

SANSKRIT. TEXT-BOOKS AND GRAMMAR

I. Explain giving the context fully—

(a) हन्तलब्धावकाशोमे मनोरथः

(b) असन्निवृत्त्यैतदतीतमेव मनोरथानामतटप्रपातः

(c) उत्सर्पिणीखलुमहतांप्रार्थना

(d) हन्तद्वितीयमिदमाशाजननम्

(e) एषविवादएवमांप्रत्याययति

(f) राजाकालस्यकारणम्

(g) बाहुकर्णाक्षिहीनःस्याद्विनाताभ्यामसौनृपः

(h) भग्नेदानीन्दूरारोहिणी आशालता

II (a) Rewrite the following in prose order, introducing, in their proper places, such words as will fully bring out the connexion between the several parts —

नृपांशसदृशानित्यं तत्सहायगणाःकिल ।
तत्कृतंमन्यतेराजा सन्तुष्यतिचमोदते ॥
तेषामाचरणैर्नित्यं नान्यथानियतेर्बलात् ।
अवश्यमेवभोक्तव्यं कृतकर्मफलंनरैः॥
प्रतिकारैर्विनानैव प्रतिकारेकृतेसति ।
तथाभोगायभवति चिकित्सितगदोयथा ॥
उपदिष्टेनिष्टहेतौ तत्तत्कर्मयतेतकः ।

(b) Expound इन्द्रानिलयमार्काणा मग्नेश्चवरुण स्यच ।

चन्द्रवित्तेशयोश्चैव मात्राभ्योनिर्मितोनृपः ॥

III. Name the individuals composing each of the following groups :—

(1) राज्ञः प्रकृतयोदश (5) षड्वेदाङ्गानि

(2) चञ्चलानिषडेतानि (6) राजवृत्तन्तुचाष्टधा

(3) त्रितयंबङ्गनर्थकृत् (7) सप्ताङ्गमुच्यतेराज्यम्

(4) चतस्रोविद्याः (8) षड्वर्गमुत्सृजेदेनमस्मिं स्त्यक्तेसुखोनृपः

IV. (a) Explain the origin of the names of शकुन्तला, सर्वदमन and भरत.

(b) Give the characteristics of a पुरोहित and a प्राड्विवाक.

(c) What personal defects disqualify a prince to reign as king ?

V Explain the allusions in (1) स्त्रीषुनाशंगता अमी इन्द्रदडक्यनहुषरावणाद्याः ; (2) दृष्टास्ते भ्यसुविपदः पाण्डुनैषधवृष्णिषु.

VI. Whence has कालिदास derived the story of दुष्यन्त ?

and शकुन्तला ? Has he closely adhered to it in his play of शाकुन्तल ? If he has not, state where the deviations from the original are to be found What reasons will you assign for them ?

VII (a) (1) नारीणाञ्चिरवासोहि बान्धवेषुनरो चते। कीर्तिचारित्रधर्मघ्नः

(2) शौर्यं प्रवर्धतेनित्यं लक्ष्यमन्धानसाधनम्
अकातरत्वंशस्त्राणां शीघ्रपातनकारिता
मृगयायागुणएते

Quote passages parallel to these from शाकुन्तल.

(b) Quote from the same play (1) Kanva's message to Dushyanta, (2) Kanva's parting advice to शकुंतला.

N B—Answer any two of the four following questions —

VIII Paraphrase any two of the following four slokas —

चित्तेनिवेश्यपरिकल्पित सर्वयोगान
रूपोच्चयेनविधिना विहिताङ्गशङ्गी ।
स्त्रीरत्नसृष्टिरपरा प्रतिभातिसामे
धातुर्विभुत्वमनुचिन्त्य वपुश्चतस्याः ॥१॥
औत्सुक्यमात्र मवसादयतिप्रतिष्ठा
क्लिश्नातिलब्ध परिपालनवृत्तिरेव ।

नातिश्रमापनयनाय यथाश्रमाय
राज्यंखहस्तधृतदण्ड मिवातपत्रम् ॥२॥
रम्याणिवीक्ष्यमधुरांश्च निशम्यशब्दान्
पर्युत्सुकोभवति यत्सुखितोपिजन्तु ।
तच्चेतसास्मरति नूनमबोधपूर्वं
भावस्थिराणिजननान्तर सौहृदानि ॥३॥
आजन्मनःशाठ्यमशिक्षितोयः
तस्याप्रमाणं वचनंजनस्य ।
पराभिसन्धान मधीयतेयै
र्विद्येतितेसन्तु किलाप्तवाचः ॥४॥

IX (a) Remark upon the grammatical peculiarities of the underlined words in the following –

(1) विमुखः परदारासु कुलकन्याप्रदूषणे ।

(2) विश्वास्यं विश्वसेत्सदा

(3) नन्यूनंलक्षयेत्कस्य पूरयीतस्वशक्तितः

(4) नाभ्यसूयेच्चकेनचित्

(5) सेनपैसुविनानैव सशस्त्रास्त्रो विशेत्सभाम

(6) परस्परंनाभ्यसूयु र्नभेदंप्राप्नुयु कदा
राज्ञाचाधिकृताःसंतो स्वस्वाधिकारगुप्तये॥

(*b*) Give the third person singular perfect (लिट्) of दृ with अधि to study, and भृ; the third person aorist passive of हन्.

(*c*) Explain the formation of जिघृक्षति:; give the same forms from आप्, लभ्, हन्, and दृश्.

X (*a*) Explain and exemplify (1) कृ with वि, उप, अनु, अधि, प्रति and नि; (2) ज्ञा with अनु, अव and प्रति; and (3) अस् with अभि, सम् and वि.

(*b*) Write the following sentences, making the changes indicated, without altering their meaning:—

(1) राज्ञोपिदुर्गुणान्वक्ति
प्रत्यक्षमविशङ्कित:
सवक्ताागुणतुल्यांस्तान्न
प्रसीतिकदाचन

} change the construction from the active into the passive

(2) राजयानारूढित:
किंराजाश्वानसमोपिच
शूनासमोनकिंराजा
कविभिर्भाव्यतेऽञ्जसा

} change the construction from the passive into the active.

(3) एकादश्यामुपवसन्ति ब्राह्मणाः
(4) तूष्णीमाध्वम्
} use the impersonal form.

XI Correct six consecutive sentences and give reasons for the corrections you make.

(1) आदिपर्वस्यअधीतेध्याये भार्गवेणश्रुतायादेवयान्या स्नान्त्वनमुच्यते

(2) अनातुरोदिवानस्वपेदिति वृद्धाअनुशासन्ति

(3) क्वगन्तव्योहमितिपृच्छति

(4) बन्धुगृहेसप्तरात्रोयंनोतः त्वयामित्रेणसहचतुरहानिवसित्वा पश्चात् स्वीयमवसथंप्रतिप्रस्थास्यामि.

(5) अनभ्यस्तव्याकरणा वेदार्थान् वेत्तुंनक्षमन्ते

(6) योमित्रद्रुहतितंमित्रद्रुहमाचक्षन्तेपण्डिताः

(7) बालकोयमतीवबुभुक्षितः पाचकीनाद्याप्योदनंपचितवती

(8) अतिथिरसत्कृतोदुर्वासाः कोपंनियच्छितुंनाशकन्

(9) स्त्रीपुमांसावामरणमवियुक्तौ भवेताम्

TUESDAY, 18TH DECEMBER, 2 TO 5 P M

SANSKRIT: TRANSLATION.

I. Translate into English—

कञ्चुकी । परिक्रम्यावलोक्यच ॥ एषदेवः
प्रजाःप्रजास्वादृवतंचयित्वा निषेवतेश्रांतमनाविवि-
क्रम् ।
यूथानिसंचार्य्यरविप्रतप्तः शीतंगुहास्थानमिवद्विपेंद्रः ॥
भो सत्यंधर्मकार्य्यमनिपात्यंदेवस्य तथापि शंकितवान-
स्मिइदानीमेव धर्मासनादुत्थिताय देवायकण्व-
शिष्यागमनं निवेदयितुम । अथवाकुतोविश्रा-
मोलोकपालानाम् । तथाहि
भानुस्सकृद्युक्ततुरंगएव रात्रिंदिवंगंधवहःप्रयाति ।
शेषस्सदैवाहितभूमिभारःषष्ठांशवृत्तेरपिधर्मएषः॥
राजा । सर्वःप्रार्थितमधिगम्यसुखीसंपद्यतेजंतुः रा-
ज्ञांतुचरितार्थतादुःखोत्तरैव ।
औत्सुक्यमात्रमवसादयतिप्रतिष्ठा क्लिश्नातिलब्धप-
रिपालनवृत्तिरेव ।
नातिश्रमापनयनाययथाश्रमाय राज्यंखड्गसधृत-
दंडमिवातपत्रम् ॥
नेपथ्येवैतालिकः ॥ जयविजयतिदेवः ।

स्वसुखनिरभिलाषः खिद्यसेलोकहेतोः
प्रतिदिनमथवाते सृष्टिरेवंविधैव ।
अनुभवतिहिमूर्ध्ना पादपस्तीव्रमुष्णम्
शमयतिपरितापं छायया संश्रितानां ॥

प्रलोभ्यवस्तुप्रणयप्रसारितो विभातिजालग्रथितां-
गुलिःकरः ।
अलक्ष्यपत्रांतरमिद्धरागया नवोषयाभिन्नमिवैक-
पंकजम् ॥

आलक्ष्यदंतमुकुलाननिमित्तहासै रव्यक्तवर्णरमणी-
यवचःप्रवृत्तीन् ।
अंकाश्रयप्रणयिनस्तनयान्वहंतो धन्यास्तदंगरजसा-
पुरुषीभवंति ॥

एवमाश्रमविरुद्धवृत्तिना संयमीकिमितिजन्मद-
स्त्वया ।
सत्वसंश्रयगुणोपिदूष्यते कृष्णसर्पशिशुनेवचंदनः ॥

अनेनकस्यापिकुलांकुरेण स्पृष्टस्यगात्रेसुखितामभै-
वम् ॥

कांनिर्वृतिंचेतसितस्यकुर्यात् यस्यायमङ्गात्कृतिनः
प्रसूतः ॥

यद्यप्यल्पतरंकर्म तदप्येकेनदुष्करं ।
पुरुषेणासहायेन किमुराज्यंमहोदयम् ॥
सर्वविद्यासुकुशलो नृपोहपिसुमन्त्रवित् ।
मंत्रिभिस्तुविनामंत्रं नैकोर्थं चिंतयेत्क्वचित् ॥
सभ्याधिकारप्रकृति सभासत्सुमतेस्थित ।
सर्वदास्यान्नृपःप्राज्ञः स्वमतेनकदाचन ॥
प्रभुस्स्वातंत्र्यमापन्नो ह्यनर्थायैवकल्पते ।
भिन्नराष्ट्रोभवेत्सद्यो भिन्नप्रकृतिरेवच ॥
पुरुषेपुरुषेभिन्नं दृश्यतेबुद्धिवैभवम् ।
आप्तवाक्यैरनुभवै रागमैरनुमानतः ॥
प्रत्यक्षेणचसादृश्यै स्साहसैश्चकलैर्बलैः ।
वैचित्र्यंव्यवहाराणा मौन्नत्यंगुरुलाघवैः ॥
नहितत्सकलंज्ञातुं नरेणैकेनशक्यते ।
अतस्सहायान्वरये द्राजाराष्ट्रविवृद्धये ॥

क्षांतिश्चेत्कवचेनकिंकमरिभिः क्रोधोस्तिचेद्देहिनाम्
ज्ञातिश्चेदनलेनकिंयदिसुहृद्दिव्यौषधैः किंफलम् ।
किंसर्पैर्यदिदुर्जनाःकिमुधनै र्विद्यानवद्यायदि
व्रीडाचेत्किमुभूषणैस्सुकविता यद्यस्तिराज्येनकिम्॥
दाक्षिण्यंस्वजनेदयापरिजने शाठ्यंसदादुर्जने

प्रीतिस्साधुजनेनयोनृपजने विद्वज्जनेचार्जवं ।
शौर्यं शत्रुजनेक्षमागुरुजने कांताजनेधृष्टता
येचैवंपुरुषाःकलासुकुशला स्तेष्वेवलोकस्थितिः ॥
सिंहश्शिशुरपिनिपततिमदमलिनकपोलभित्तिषुगजेषु
प्रकृतिरियंसत्त्ववतांनखलुवयस्तेजसांहेतुः ॥

II Translate into Sanskrit—

Frederick the Great, King of Prussia, having rung his bell one day, and, nobody answering, opened the door where his servant was usually in waiting, and found him asleep on a sofa. He was going to awake him, when he perceived the end of a billet or letter hanging out of his pocket. Having a curiosity to know its contents, he took it and read it, and found it was a letter from the page's mother thanking him for having sent her a part of his wages to assist her in her distress and concluding with beseeching God to bless him for his attention to her wants. The King returned softly to his room, took a number of ducats and slid them with the letter into the page's pocket. Returning to his apartment, he rang so violently that the page awoke, opened the door and entered. "You have slept well," said the King. The page made an apology, and in his embarrassment happened to put his hand into his pocket and knew that there were ducats in it. He looked at the King with tears in his eye, and was unable to speak. "What is the matter?" asked the King, "What ails you?" "Ah! Sir," said the young man, throwing himself at his feet, "somebody has wished to ruin me; I know not how I came by this money." "My friend," said Frederick, "God often sends us good in our sleep. Send the money to your mother, salute her in my name, and assure her that I will take care of her and you."

TUESDAY, 18TH DECEMBER, 10 A.M. TO 1 P.M.

LATIN: TEXT-BOOKS AND GRAMMAR.

I. (*a*) Decline domus, sus, alteruter.

(*b*) Give rules for determining the gender of nouns whose stems end in a vowel.

(*c*) Enumerate, and give the meanings of, nouns that have two plurals.

II. (*a*) Give, with examples, two methods by which adverbs are formed from adjectives, and one by which adverbs are formed from verbs.

(*b*) Mention, with examples, prefixes or suffixes that are added to pronouns; and state how they affect their meaning.

(*c*) Conjugate the tenses to which the following belong:—

poteris, fite, nolunt, edite.

III. (*a*) Mention, with short illustrative sentences, different ways in which purpose may be denoted in Latin.

(*b*) Classify the regular uses of the subjunctive mood, and mention any exceptional uses of it.

IV. (*a*) Turn into indirect narration:—

"Bellum igitur" inquit "tam integrum habemus quam habuimus qua die Hannibal in Italiam est transgressus. Quam varia victoria priore Punico bello fuerit, plerique qui meminerimus supersumus."

(*b*) Turn into direct narration:—

Bassus (Nolanus) respondit, multos annos inter Romanum Nolanumque populum amicitiam esse, cujus neutros ad eam diem pœnitere: et sibi, si cum fortuna mutanda fides fuerat, sero jam esse mutare eam. Dedituris se Hannibali fuisse accersendum Romanorum præsidium? Cum iis qui ad sese tuendos venissent, omnia sibi et esse consociata et ad ultimum fore.

V. Make grammatical comments on the words in italics in the following passages:—

(i) Liceat superesse *nepotem*.

(ii) Sume, Mæcenas, cyathos *amici*
Sospitis centum.

(iii) *Ut* vos consulem, quem tempus reipublicæ *postularet*, quem maxime *vultis*, haberetis.

(iv) Abstineto *irarum*.

(v) *Quin* etiam audiendus *fuerit* popa Licinius nescio qui de circo.

VI. Translate, with explanation of historical and other allusions—

(i) Curulem magistratum ceperat.

(ii) Illud Cassianum CUI BONO FUERIT.

(iii) Ei ineunti consulatum quum tonuisset, vocati augures vitio creatum videri pronuntiaverunt.

(iv) Sit Medea ferox invictaque, flebilis Ino.

(v) Librarium illud . . . . ex mediis armis turbaque nocturna, tamquam Palladium sustulisti.

VII. Translate, with any necessary notes—

(i) Quum tantum senatorum adversæ pugnæ, ad hoc sui quemque casus per quinquennium absumpsissent.

(ii) Immunis aram si tetigit manus,
Non sumptuosa blandior hostia
Mollivit aversos Penates
Farre pio et saliente mica.

(iii) "Minime sis," inquit, "cantherium in fossam."

(iv) Post diem tertium res gesta est quam dixerat.

(v) Si mihi quæ quondam fuerat, quamque esse decebat,
Vis in amore foret, non hoc mihi namque negares.

(vi) Heus tu, Rufio, verbi causa, cave, sis, mentiaris.

(vii) Suggere tela mihi; non ullum dextera frustra
Torserit in Rutulos, steteruntque in corpore Graium.

(viii) Nec vera virtus, quum semel excidit,
Curat reponi deterioribus.

VIII. (*a*) Note any peculiarities in the scansion of—

(i) Vos lone consilium et datis et dato.

(ii) Si non periret immiserabilis.

(iii) Clamore incendunt cœlum Troesque Latinique.

(*b*) Name three of the metres used by Horace in the third book of the Odes, giving an example of each.

IX. Explain, 'ad senatum de re referre,' 'dictatoris Lanuvini stata sacrificia,' 'concio,' 'comitia,' 'duumvir ædis dedicandi causa,' 'civica corona,' 'magister equitum.'

X. (*a*) Give the substance of Horace's advice regarding dramatic composition, and of his account of the drama.

(*b*) State, and estimate the value of, Cicero's arguments for Milo drawn from the previous relations of Milo and Clodius.

XI. (*a*) Correct mistakes in the following sentences, giving reasons for the corrections :—

(i) Dignus est maximi laudis.

(ii) Cave ut nemo obvius ad te veniat.

(iii) Quanto istum mel emisti ?

(iv) Haud dubium est ne eum opus sit.

(*b*) Translate into Latin—

(i) He started from Rome on the 22nd of October, stayed four days at Brundisium and then sailed (vehor) for Greece.

(ii) Who would be so foolish as to exchange gold for silver ?

(iii) I cannot tell whether he will remember me or not.

TUESDAY, 18TH DECEMBER, 2 TO 5 P.M.

LATIN: TRANSLATION.

I. Translate into English—

(1) Jamque dies cœlo concesserat, almaque curru
Noctivago Phœbe medium pulsabat Olympum :
Æneas, neque enim membris dat cura quietem,
Ipse sedens clavumque regit velisque ministrat.
Atque illi medio in spatio chorus ecce suarum
Occurrit comitum : Nymphæ, quas alma Cybebe
Numen habere maris, Nymphasque e navibus esse
Jusserat, innabant pariter, fluctusque secabant,
Quot prius æratæ steterant ad litora proræ.
Agnoscunt longe regem, lustrantque choreis.
Quarum, quæ fandi doctissima, Cymodocea
Pone sequens dextra puppim tenet, ipsaque dorso
Eminet, ac læva tacitis subremigat undis.

(2) Interea soror alma monet succurrere Lauso
Turnum, qui volucri curru medium secat agmen.
Ut vidit socios : "Tempus desistere pugnæ ;

Solus ego in Pallanta feror; soli mihi Pallas
Debetur; cuperem ipse parens spectator adesset."
Hæc ait; et socii cesserunt æquore jusso.
At Rutulum abscessu, juvenis tum jussa superba
Miratus stupet in Turno, corpusque per ingens
Lumina volvit, obitque truci procul omnia visu;
Talibus et dictis it contra dicta tyranni:
"Aut spoliis ego jam raptis laudabor opimis,
Aut leto insigni. Sorti pater æquus utrique est.
Tolle minas."

(3) Non omnis moriar! multaque pars mei
Vitabit Libitinam. Usque ego postera
Crescam laude recens, dum Capitolium
Scandet cum tacita virgine pontifex.
Dicar, qua violens obstrepit Aufidus,
Et qua pauper aquæ Daunus agrestium
Regnavit populorum, ex humili potens,
Princeps Æolium carmen ad Italos
Deduxisse modos. Sume superbiam
Quæsitam meritis, et mihi Delphica
Lauro cinge volens, Melpomene, comam.

(4) Sunt delictá tamen quibus ignovisse velimus:
Nam neque chorda sonum reddit quem vult manus et mens,
Poscentique gravem persæpe remittit acutum;
Nec semper feriet quodcunque minabitur arcus.
Verum ubi plura nitent in carmine, non ego paucis
Offendar maculis, quas aut incuria fudit,
Aut humana parum cavit natura. Quid ergo est?
Ut scriptor si peccat idem librarius usque,
Quamvis est monitus, venia caret; et citharœdus
Ridetur, chorda qui semper oberrat eadem;
Sic mihi, qui multum cessat, fit Chœrilus ille,
Quem bis terve bonum cum risu miror; et idem
Indignor, quandoque bonus dormitat Homerus.
Verum operi longo fas est obrepere somnum.

(5) In hanc dimicationem duorum opulentissimorum in terris populorum omnes reges gentesque animos infenderant, inter quos Philippus Macedonum rex eo magis, quod propior Italiæ ac mari tantum Ionio discretus erat. Is ubi primum fama accepit Hanni-

balem Alpes transgressum, ut belio inter Romanum Pœnumque orto lætatus erat, ita, utrius populi mallet victoriam esse, incertis adhuc viribus, fluctuatus animo fuerat. Postquam tertia jam pugna tertia jam victoria cum Pœnis erat, ad fortunam inclinavit, legatosque ad Hannibalem misit, qui vitantes portus Brundisinum Tarentinumque; quia custodiis navium Romanarum tenebantur, ad Laciniæ Junonis templum in terram egressi sunt.

(6) Romanos, præter insitam industriam animis, fortuna etiam cunctari prohibebat. Nam nec consul ulli rei, quæ per eum agenda esset, deerat; et dictator, M. Junius Pera, rebus divinis perfectis, latoque, ut solet, ad populum, ut equum escendere liceret, præter duas urbanas legiones, quæ principio anni a consulibus conscriptæ fuerant, et servorum delectum, cohortesque ex agro Piceno et Gallico collectas, ad ultimum prope desperatæ rei publicæ auxilium, quum honesta utilibus cedunt, descendit, edixitque, "qui capitalem fraudem ausi, quique pecuniæ judicati in vinculis essent, qui eorum apud se militos fierent, eos noxa pecuniaque sese exsolvi jussurum."

(7) Vos enim jam, Albani tumuli atque luci, vos, inquam, imploro atque testor; vosque Albanorum obrutæ aræ, sacrorum populi Romani sociæ et æquales, quos ille præceps amentia, cæsis prostratisque sanctissimis lucis, substructionum insanis molibus oppresserat: vestræ tum aræ, vestræ religiones viguerunt, vestra vis valuit, quam ille omni scelere polluerat: tuque ex tuo odito monte, Latiaris sancte Jupiter, cujus ille lacus, nemora finesque sæpe omni nefario stupro et scelere macularat, aliquando ad eum puniendum oculos aperuisti. Vobis illæ, vobis vestro in conspectu seræ, sed justæ tamen et debitæ pœnæ solutæ sunt.

(8) (Not from text-books.) Romanus sum civis: C. Mutium vocant: hostis hostem occidere volui; nec ad mortem minus animi est quam ad cædem fuit. Et facere et pati fortia Romanum est. Nec unus in te (o Rex Porsenna) ego hos animos gessi; longus post me ordo est idem petentium decus. Proinde, in hoc discrimen, si juvat, accingere ut in singulas horas capite dimices tuo, ferrum hostemque in vestibulo habeas regiæ. Hoc tibi juventus Romana indicimus bellum. Nullam aciem, nullum prælium timueris; uni tibi, et cum singulis res erit.

II. Translate into Latin—

Gorgias, of Leontini, was celebrated among his contemporaries as a statesman and orator, as well as a teacher of Rhetoric. At an

advanced age, he was sent by his fellow-citizens as embassador to Athens, for the purpose of soliciting aid against Syracuse, which was then threatening Leontini. His eloquence so captivated the Athenians as to procure for him a happy termination of his mission. He seems to have returned to Leontini only for a short time, and to have spent his last years in the towns of Greece, chiefly at Athens and Larissa.

TUESDAY, 18TH DECEMBER, 10 A.M. TO 1 P.M.

PERSIAN: TEXT-BOOKS AND GRAMMAR.

I. Correct the following and state your reasons for so doing:—

کسي چيزمارا خوش نمي آيد - پسر شير خان همواره درخانهٔ زيد ميرود - اين سخن مناسب حال او نيست - اين كدام است - صاحبزادي او بسيار وجيه است - من تگفنگ را بر ان جانور گذاشتم - من آنكس را درخانه نهادم - تبرش بر توده نمي چسپد - صندلي درانجا بنه *

II.

* حسن تو همیشه در فزون باد *
* رویت همه سال لاله گون باد *
* یار ما هرگز نباز ارد دل اغیار را *
* گل سرا سر آتشست لیکن نسوزد خار را *

Of what is باد the contraction, and what do you call the "Alif" in باد and in سراسر

III.

گفت كه مي آيم - تو كه نميداني - ميدادي خواهر ترا

که سلطان بدهیم درجهٔ تو چه قدر زیاد تر خواهد شد *

How is که used in the above sentences, and what does it imply in each case?

IV. Parse, using Persian terms, the following:—

گو که بیار - گو که بیاورده شود - بیار - آورده بشو *

V. What kind of sentences (جمله ها) are the following, and what do you term the nominative when it agrees with the verb in the passive voice (فعل مجهول)

زید بکر را زد - زید زده شد - اینجا بیا - آنجا مرو - شاید تو برده باشي - همه آمدند مگر زید *

VI. Name the different kinds of مفعول in the following sentences:—

من او را زدم - او در مدرسه میخواند - او برای تحصیل علم در دارالعلوم داخل شد - بیرون رفتم از خانه با دوستان *

VII. Define and give examples of—

لف و نشر مرتب وغیره مرتب - تشبیه - استعاره - مقلوب مستوي - توشیح - براعت استهلال *

VIII. Give the meaning in English of the following idioms:—

رانو زدن — پادشاه خوبروان است چندان دور نیست - سرو و شمشاد چمن گر پیش او را نوزنند - زبان زبر زبان تا ته زبان داشتن - روي دستي خوردن - پس انداز - پا جفت دویدن -

* فکندند از شوق معشوق پوست *
* دویدند پا جفت در راه دوست *

شرف الیهود معلق زدن - بغلي ترشي جاشیر چه قیمت دارد - آن کلوک ترشي کجاست - آیا توهه درخت هارا پاتال کردي - آیا او چبلو هست - هیچ طفره مزن *

IX. Form اسم ظرف from the following words :—

نفاذ — سکونت — دفن — درس — حکم —
دخل — ولادت — سافط — کتاب — عبور — طرح *

X. Scan the following couplet and point out the تصرفات شاعري

* بده ساقي مي باقي که در جنت نخواهي یافت *
* کنار آب رکنا باد وگل گشت مصلا را *

TUESDAY, 18TH DECEMBER, 2 TO 5 P.M.

PERSIAN: TRANSLATION.

I. Translate into Persian—

Having disposed of the fanatics at Nehrwan, and recrossed the Tigris, Ali, at the head of his army, turned his face again towards Syria. But the soldiers urged that, before setting out upon so long a campaign, their armour needed refitting. "Let us return for a little to our homes," they said, "to furbish up our swords and lances, and to replenish our quivers." Ali consenting, they marched back and pitched their camp at Nokheila. This being close to Kufa, the soldiers dropped off in small parties thither; and so it came to pass that, in a short time, excepting commanding officers, the camp was left almost empty. Ali, finding that no man returned, became impatient, and himself entering Kufa, again harangued

the people on the obligation to go forth with him and make war on Syria. But exhortation and reproach fell equally on listless ears There was no response, and Ali lost heart.

II. Translate into English—

(1) * هر آن خجسته نظر کز پی سعادت رفت *
* بکنج میکده و خانهٔ ارادت رفت *
* ز رطل درد کشان کشف کرد سالک راه *
* رموز غیب که در عالم شهادت رفت *
* بیا و معرفت من شنو که در سخنم *
* رفیض روح قدس نکتهٔ سعادت رفت *
* مجو ز طالع مولود من بجز رندی *
* که این معامله با کوکب دلالت رفت *
* مگر بمعجزه کوشد طبیب عیسی دم *
* چرا که کار من خسته از عیادت رفت *
* هزار شکر که حافظ ز راه میکده دوش *
* بکنج زاویهٔ طاعت و عبادت رفت *

(2) ودری از قلعه بالا تر بکار رسیده آنجا ایستادیم حاکم شهر و حاکم نظامي قلعه و سربازو سواره و اهل شهر همه آنجا بودند بعد کالسکها از همان راهي که آمده بودیم بر گشته از قلعه و شهر و رن گذشته افتادیم براه سالسبورع همان راه ارکنار رود خانه پو راه و کوههاي بلند رفتیم *

برهمن گفت بهره‌مند شدم از داستان سخن چیني (3)
دمنه ابن حکیم زمان انجام کار دمنه باز نماید حکیم فرمود
که دور بینی آن میخواهد که پادشاهان تا بدلیل روشن آگاه
نکردند حکمي نکنند و بعد ازان که سخن غرض کودان
بپایهٔ قبول رسیده چاره آنست که سخن چین را چنان
سزا دهد که دیگران پند گیرند چنانچه شیر بر فریب دمنه
آگاه شده چنان سیاست کرد که دیگران را تنبیه شد *

(4) * تعالی الله ازین جشن دل افروز *
* که جوش عیش از ماهی است تا ماه *
* دل عالم زفیض عام گردید *
* بیک دم کام یاب کام دل خواه *
* پي تاریخ این جشن سعادت *
* خرد محو تامل بود ناگاه *
* بگفتا هاتف افزوده سریمن *
* بگو جشن همایون شهنشاه *

زیاده جرات حد ادب ندید خورشید جهانبابي
از مطلع کامراني و شادماني طالع باد بالنون و الصاد *

(5) اسپ سُم زد — برو عقلت عرض کن — جشم
او چپ است — آبا مادبان او رم کرد — بچه را قلقلي
مکن — دست او لحم است *

TUESDAY, 18TH DECEMBER, 10 A.M. TO 1 P.M.

URDU: TEXT-BOOKS AND GRAMMAR

I ان ابیات کي شرح صاف عبارت میں تحریر کرو*

(ا) * امید و بیم مین احوال دل ہر دم دگرگون ہي *

* کبھي پیرو ہي موسیٰ کا کبھي بندہ ہي قارون کا *

* نکیون کیفیت اشراق ہم مستون کو حاصل ہو *

* ہر اک خم اپنے میخانہ مین سینہ ہي فلاطون کا *

(ب) * گر پاس آبرو ہي تجھے کر فرو تني *

* بد تر حباب سے ہي جو در تہ نشین نہو *

(ج) *بان موج ہوا ہوا پرازدرہ‌وان رنگ زمین زمین پراخگر*

*مرغان ہوانھہ ہوش راہي*نقش کف پا تھي رنگ ماني*

*سایہ کو پتا نتھا شجر کا*عنقا تھا نام جا نور کا *

II. الفاظ ذیل کی معني انگریزي مین لکھو *

عطا پاش — خطا پوش — جوانان چمن — موردالرام ہونا

جھکے جھوٹ جانا — جوکڑي بھولنا — ششدد ہونا — دور

دھوپ کرنا — چشمک زن — شب بلدا — طمانیت کلي*

III ہر ایک لفظ کے دو دو معنے لکھو *

پوستین — دم — گویا — کوس — سودا — سیمرغ

منزل — بار*

IV. ان الفاظ مرکب کے اوْر ہر ایک جز کے معنے بیان کرو*
فرمانبرداري – سیمرغ – ماحصل – رنش گاو – بوالفضول
في‌الفور – بدبیضا – گورخر *

V. ان سوالات کے بھي جوابات دو *

(ا) حروف اضافت – حروف ندا – حروف تعجب
حروف استدراک – حروف تصغیر کون سے ہین *

(ب) حملون کے چھار اقسام لکھو *

(ج) مرکب ناقص کے اقسام معہ مثال رقم کرو

(د) اُردو مین مونث کي پہچانت کے قاعدے کیا ہین*

VI. ماتحت کے ہر ایک دو لفظ مین کیا فرق ہي *

بے اوْر نا – مجہول اوْر اسم مفعول – فعل ناقص اوْر فعل
لازم – استعارہ اوْر مجازمرسل مین *

VII. * سر کو تکرا یا دیکھ پیشانی *
* آئي پیش اسکے تھي جو پیش آني *
حاصل کار آرام دل سو گوار گرم رو راہ الم اوْر صرصروا ر
آوارۂ عالم ہوا *

(ا) بیت اوْر عبارت مذکور مین کیا صنعت ہي *

(ب) بیت مذکور کي تقطیع کرو*

(ج) بیت اوْر عبارت مذکور کي ترکیب کرو *

VIII. ان کي تعريف کرو *

تجنيس مکرر — ايهام — سياق الاعداد — حشو — قافيه — عيوب کلام *

TUESDAY, 18TH DECEMBER, 2 TO 5 P.M.

URDU : TRANSLATION AND COMPOSITION.

عبارت ذيل کا ترجمه اردو مين تحرير کرو *

I. Translate into Urdu—

The huts of this savage tribe may be seen either singly or in small groups, sometimes on the bare hillside, sometimes on the river-bank, or at the edge of a salt-pan, or more rarely in the rocky glen of the river; they scarcely ever exceed twelve feet in diameter, and five feet in height; their shape, as far as its general want of symmetry allows it to be defined, may be said to be hemispherical; and they are all quite unenclosed. Their construction, as their appearance suggests, is of the most primitive order; the women build them by simply taking a number of branches, about six feet in length, arranging them in a circle, tying their upper ends all together in a bundle, and throwing some rush mats over the framework thus hastily put up. An aperture is left large enough to admit a man on all-fours. A hollow dug out in the centre is the only fire place; a pole, supported by two forked uprights, supports the entire wardrobe of the household, which rarely consists of more than a few tattered rags of European attire, and some articles of apparel made of skins.

بابت ذيل مين تا وسع امکان تحرير کرو *

II. Subject of a short Essay in Urdu—

The advantages of visiting foreign countries.

منافع جو غير ممالک کي سياحت سے حاصل هوتے هين *

نيچے درج کئے گئے نظم و نثر کا انگريزي مين ترجمه لکهو *

III. Translate into English—

* هجر دلدار مین گر آئے امنڈ کر آنسو *
* رازدار ایسے ہین ہم بي گئے یکسر آنسو *
* بد مزاجي سے مین اسکے نہین روسکتا ہون *
* اور رکھتے ہین یہان جوس سمندر آنسو *
* چشم گرم اسنے دکھائي جو مرے رونے پر *
* رہ گئے دامن مژگان سے لپٹ کر آنسو *
* ہو گیا خشک لہو ہاے مرے جسم کا سب *
* خون دل آتا ہی اب آنکھون سے بنکرآنسو *
* اي صفیر اسکے نہ آگے کبھي رونا ہرگز *
* بي لو آئے بھي اگر آنکھون کے اندر آنسو *

آرام دل نے رقت کو جو ضبط کیا دل پر بڑا صدمہ پہونچا ضبط ہوا اُبکائي کے سانھا منہہ سے خون ڈالا دلخراشي رنط ہوا سورش غم نے دل کو پاني پاني کر ڈالا چوب دل کا بخار نکالا چہرے کا رنگ زرد ہو گیا غش پر غش آنے لگے تمام بدن دفعۃً سرد ہو گیا عورت اس حادثے سے سخت حیران ہوئي شب وصال مین یار کا یہہ حال دیکھکر نہایت پریشان ہوي جلد جلد گلاب کیوڑہ بید مشک چھڑک کر ہوش مین لائی اور کہنے لگي کیون جي یہہ ہم سے دغابازي

کرتے ہو اپنا یہہ حال بنا کر ہمین ڈراتے ہو ہم سے نہین ڈرنے ہو بس خیر اسي مین ہي کہ رونے دھونے کو موقوف کرو اور ساغر تمنا مجھہ سے صاحب جمال کا شراب وصال سے بھرو*

* بہار آئي کہین دامن سے خار الجھین بیابان کے *
* چڑھاؤن ترت مجنون پر نار اپنے گریبان کے *
* ذرا بوٹا سا قد گلگشت مین یاد آگیا مجھہ کو *
* گلے لگ لگ کے رویا خوب سا سرو گلستان کے *
* فلم کے طرح سر تن سے قلم ہونا تھا قسمت مین *
* شہادت لکھی تھي ہانھون سے اک طفل دبستان کے *
* ہوا آغاز خط لازم ہي دے ای نو جوان صد بہ *
* نصدق مین جھتّن قیدي تیرے چاہ زنخدان کے *
* بھرا ان کي طرف سے آبلے کي طرح مین بھي ہون *
* خلش رکھین نہ کیون مجھسے جنون کانٹے بیابان کے *
* بدے تو نقشے کہنچوا کر ہر اک کو مصحف رخکے *
* نکر یون منشر بہر خُدا اوراق قران کے *
* مزا دیتے نہین بعد فنا بھي خلد کے میوے *
* صبا بوسے وہ لینے یاد ہین سیب زنخدان کے *
* بلند و پست عالم ایک ہي چشم حقیقت مین *

* حصیر فقر ہم پایہ بنا تخت فریدون کا *

پہلوانون نے رکابون مین پاؤن دبا ہاتھہ مین برچھہ لیا - ڈاڑھیان دانتون مین دبائین موچھین چڑھا کر آسن دبا کر باگین اٹھائین تلوار بن علم کرتے فضاے مبرم کي طرح جا پڑے ایسے لڑے کہ گاو زمین تبر آني تھي زبان تیغ سے افتلوا کي صدا آتي تھي - بیدین خون مین نہانے تھے بن موت مرے جاتے تھے ایک دم مین لاشون کے انبار ہوے برق شمشیر سے جل کر ناري في النار ہوے لڑائی بگڑ گئي - بھاگڑ پڑ گئي - بعد اس کے فراریون نے کل سرداران ہند کو یہہ تحریر کیا کہ اس لڑکے نے ملک ہمارے آبا و اجداد کا لڑکے لیا اگر تم سب مل کر ہماري مدد کرو بہتر ہي ورنہ سب کارخانہ ابتر ہي *

TUESDAY, 18TH DECEMBER, 10 A.M. TO 1 P.M.

TAMIL: TEXT-BOOKS AND GRAMMAR.

I. (a) இராசசூயயாகம்செய்த சமயம், அதன்நோக்கம், செய்தவிதம், செய்வதற்கு முன்னும் செய்த காலத்திலும் நிகழ்ந்த சங்கதி - இவை யின்னி ன்னவென்று சுருக்கமாய் இச்சுருக்கத்திற் கூறியவாறு கூறுக.

(b) இந்தயாகத்திலனுசரித்த முறைகளிற் சில இப் பொழுதும் இந்துக்களுக்குள் சில சமயங்களில் வழங்கிவருகின்றன. அவற்றுளிரண்டு கூறுக.

II. (a) கிருஷ்ணன் "பாண்டவர்கள் புரிந்த தவப்புய னாகி யவதரித்தார்" என்பதற் கிசையக் கவி கூறியிருக்கும் விஷயங்களிலிரண்டு சொல்லுக.

(b) நரமேதம், விஜயகம்பம், வீரர்மாலை, இவை யின னவென்று சுருக்கமாயெழுதுக.

(c) பாரதம் இராமாயணத்துக்குப் பிற்பட்ட நூல் என்று இச்சருக்கத்தாலெப்படி யறியலாம்?

III. (a) அவனிபவ்வமுறுநவ்வெனத்தலை நடுங்கவே; பை ங்கடல் பருகுமேகம் பரிதியை மறைத்ததென்ன; இவற்றினர்த்தமென்ன? இவை எவற் றை விளக்கும்படி சொல்லப்பட்டன?

(b) (1) அமுதுண்டோர் செவியிரதந் தெவிட்டுவிப் பாய், (2) இரும்பினைக் குழைக்குநெஞ்சர், (3) இளைய வீரமா நகுலனகுலனென்று குலை குலையவே, (4) இந்திரபுரிக்குமிந்த விந்திர புரிக்குந்தேவர் அந்தரமறிவுறுமல்;—இவற்றி ன் பொருளென்ன? கடைசி யிரண்டிலுமுள் ள அழகென்ன?

(c) ஆபாதசூடம், அங்குரித்தல், அரணி, விபினம், ச ராசனம், தூ, ஆனுமல், கூலம், இவற்றுக்காத்த மென்ன? இவற்றுளெவையாவன இரண்டுக் கு இவ்விரண்டு பரியாயநாமங் கூறுக.

IV. இதற்குப் பொருள் தெளிவா யெழுதுக.

(a) என்றபோதந்த வேத்தவையிருந்தோர் யாவரு மிருந்துழியிருநது
நன்றுநான் மறையோர் சிகாமணியுரைத்த நவி ரறுநல்லுரையென்றார்
சென்றுபோர்தோறும் வென்றியேபுனையும் சே தியம்பதிசிசுபாலன்
கன்றினுனிதயம் கருகினுன்வதனம் கனலெனச் சிவந்தனன் கண்ணும்.

(b) (1) சிசுபாலன் கண்சிவந்தான், (2) பூதனை யுயிர்நுகர்ந்தான், இவ்விரண்டிலுமுள்ள பெயர்ச்சொற்களின் முடிபுகூறி, அவற்றுக்குரிய நன்னூற் சூத்திரங்களிரண்டையு மெழுதுக.

(c) மேலே IV - (a) யிலுள்ள வினைத்தொகை, தொழிற்பெயர், குறிப்புவினை முற்று, வலித்தல் விகாரம் - இவற்றிலொவ்வொன்றெடுத்ததெழுதுக. நீர் எடுத்துக்கொண்ட தொழிற பெயர்க்கும், குறிப்பு வினைமுற்றுக்கும பகுபத விலக்கணங் கூறுக.

V. (a) சுறறந்தழால், மானம், இவற்றுக்குச் சரியான அர்த்தமெழுதுக.

(b) "I love the name of honor more than I fear death" - நாலடியாரிலிதற்குச் சார்பான பொருளடங்கிய செய்யுளொன்று வரைக.

(c) (1) "நல்லாண்மகற்குக் கடன்" எனன ?

(2) "வண்மை" எத்தன்மையது ?

(d) (1) நயமிலாக் கல்லார்க் கொன்றுகிய காரணந் தொல்லை வினைப்பயன் ;

(2) தன்னைத்தலையாகச் செய்வானுந்தான் - இவற்றை யொப்பிட்டுப்பார்த்து உமது அபிப்பிராய மின்னதெனச் சொல்லுக.

VI (a) உப்பிலிவெந்தை ; வடித்தற்று ; கண்டனன ; நோதகக ; இவற்றின் நிலைமொழிகளின் பூரணமான ரூபமென்ன ? ஒவ்வொன்று மென்னதொடர் ? கடைக்குறைக்கும் ஈறு தொகுத்தலுக்கும் பேதமென்ன ?

(b) எழீஇ, பொரீஇ, பரீஇ, நசைஇ, இவறறின் பொருளென்ன ? பகுதியென்ன ? இவறறின் சாதாரணமான இறந்தகால வினையெச்சமென்ன ?

(c) இவற்றுக்குப் பொருள் தெளிவா யெழுதுக :—

(1) இன்னரினையர் எமர் பிறர் ; (2) செய்வினைக்கும் ; (3) காஞ்சிரங்காழ்தெங்காகா ; (4) பொதியொடு பீள்வாட ; (5) ஆர்த்த பொறிய வணிகிளர் வண்டினம் ; (6) கறங்கருவிகன் மேற் கழூஉங்கணமலை நனஞட ; (7) தானு மதனை வழங்கான் பயன்றுவ்வான் யானுமதனையது ; (8) நல்லிற் சிதைத்ததி.

(d) கழூநீருட்காரடகேனு மொருவன்

விழுமிதாக்கொள்ளினமிழ்தாம் - விழுமிய
குயத்துவையார் வெண்சோறே யாயினுமே
வாதார்

கைத்துண்டல் காஞ்சிரங்காய் - இதற்குப் பொழிப்புரை யெழுதி, கடைசி யிரண்டடியிலுமுள்ள சீர் தளைகள் இன்னின்னவென க்கூறுக.

VII. (a) பெரியபுராணத்தைப புராணமென்று சொல்வதற்கு நியாயமென்ன ?

(b) (1) சூலபபடையின் மூன்றலகும் குறிக்கும் பொருளென்ன ?

(2) அரசனுக்குரிய ஆறங்கங்களுமென்ன ?

(c) (1) சரியை முதலிய நான்கு பாதங்கள், (2) ஐயமுதலிய முக்குற்றங்கள் ; இங்ஙனம் முதலிய என்றதிலடங்கியன என்னென்ன ?

(d) அடியில் வருவனவற்றுக்கு நுட்பமாய்ப் பொருள் கூறுக :—

(1) நெருப்பினுட்டுஞ்சலுமாகு நிரப்பினுள் யாதொன்றுங்கண் டாடரிது.

(2) வேதிகை, தந்திரியாத்தல், பரகாயப்பிரவேசம், கொண்மூ, பூர்வவாசனை, செல்வபபடுகர், நித்திய நைமித்திகங்கள், ஆசமனம்.

VIII. (a) தெயவபத்தியுள்ளவன் உடல், பொருள், ஆவி மூன்றையுந் தத்தம் பண்ணுவான். இவற்றி

ல் ஏதாவதொன்றைத் தத்தம்பண்ணியதை ப்பற்றிய புராண கதையைச் சுருக்கி ஆறு வரியில் எழுதுக.

(b) தண்டியடிகள், கலிக்கம்பர், இவர்கள் புராணத்தி னால் நூல் செய்தவர் விளக்கக் கருதிய பொருளென்ன? (இவ்விரண்டுவரியில் விடை யெழுதுக.)

(c) சங்கபபலகையைப்பற்றி யென்ன சொல்லி யிருக்கிறது? (8 வரிக்குள் விடை யெழுதுக.)

(d) அறவினை இது, தீவினை இது என எப்படியறிய லாம்? (புராணத்தைக்கொண்டு இரண்டு வரியில் விடை கூறுக.)

TUESDAY, 18TH DECEMBER, 2 TO 5 P.M.

TAMIL. TRANSLATION AND COMPOSITION.

I. Translate into Tamil:—[See Urdu Translation paper, p. cii.]

II Subject of a short Essay in Tamil—
The advantages of visiting foreign countries.

அந்நிய தேசங்களுக்குப்போய அவைகளைப் பார் கிறதினால் உண்டாகும் பிரயோஜனம்.

III. Translate into English—

(1) (a) ஒருவர் பொறை யிருவர் நட்பு.

(b) களைபவோ கண்குத்திற் றென்று தங்கை.

(c) . . . . . அடுத்தடுத்து
வனகாய் பலபல காய்ப்பினு மில்லையே
தன்காய் பொறுக்கலாக் கொம்பு.

(d) நல்லாரொனததா நனிவிரும்பிக் கொண்டாரை
யல்லாரொனினு மடக்கிக் கொளல்வேண்டும்:
நெல்லுக்குமியுண்டு நீர்க்கு நுரையுண்டு
புல்லிதழ் பூவிற்குமுண்டு.

(2) உலகத்திலே பலசாலியாக ஒருவனும் தர்மசாலியாக ஒருவனும் இருந்தால், அவ்விருவருக்குள் பலசாலியே சிறந்தவன், ஏனென்றால் பலசாலியாயிருப்பவன் பல சத்துருக்களையும் ஜெயித்துப் பெருஞ்செல்வம் பெறுவான்.

(3) மதுராபுரியிலே, சதுரமாய் இரண்டு சாண் அளவினதாகி மெய்ப்புலவர்களுக் கெல்லாம் முழம் வளாந்து இருத்தற்கு இடங் கொடுக்கின்ற சங்கப்பலகையைப் பெற்று, அதனில் இருந்து தமிழ மொழியை வளர்த்த கடைச் சங்கப் புலவர்கள் கபிலர் பரணர் நக்கீரர் முதலாக நாற்பத்தொன்பது பெயர்கள் பொய்யடிமையில்லாத புலவாகள் எனப் பெயர்பெற்றார்கள்.

(4) இரண்டாவது ஜநநத்தை உண்டுபண்ணுகிறவனுயும, வேதத்தில் சொல்லியபடி தர்மத்தை அறிவிகிறவனுயும் இருப்பவன் தன்னிலும் பாலியனுயிருப பினும், சாஸ்திரப்படி தகப்பனுக்குச் சரியாயிருக்கிறான். உதாரணமாக, அங்கிரசனுடைய புதிரனுகிய கவியென்னும் பெயர்பெற்ற வித்துவானுன பாலியன் தன் பிதுர்க்களுக்கு வேதம் ஓதுவித்தான், அப்பொழுது ஞானத்தினுல் அவர்களை ச்சீஷர்களாக மதித்து "பிள்ளைகாள்" என றழைத்தான்.

IV. Translate into appropriate Tamil—

(a) The better a man is the more happily he lives.

(b) I would not exchange an honest man for a lucky one. One cannot judge of the day till one sees the evening as well as the morning.

(c) He thought it best to remain contented with his solitary life and began to make the best of it.

TUESDAY, 18TH DECEMBER, 10 A.M. TO 1 P.M.

TELUGU : TEXT-BOOKS AND GRAMMAR.

I. (a) పారిజాతాపహరణమున, మీరుచదివిన భాగమందు 'ముక్కు తిమ్మ నార్యు ముద్దుపలుకు' అనుదాని సార్థకముగఁజేయఁదగు మూఁడు ప్రయోగములను జూపి, అవి యట్టివ యని నిరూపించునది.

(b) నన్నయభట్టారక స్వభావోక్తులలో, మీరు చదివినమట్టుకు మిక్కిలి యొప్పినదని మీకుఁ దోఁచినపద్యమును గాని లేక దాని తాత్పర్యమునుగాని వ్రాయవలయు.

(c) 'నీతిచంద్రిక' అను శబ్దార్థముఁ దెలిపి, దీనిలో నేయేభాగము లెవరెవరిచే రచియింపఁబడినవో తెల్పుటయేకాక మీరు చదివిన భాగమునకు, మూల గ్రంథంబులఁ జూపవలయు.

II. ఈ క్రింది పద్యములకు దండాన్వయము వ్రాయునది.

(1) చిలుకలువాఁడిచంచువులఁ జించినచో లవలీదళంబుల।
స్ఫలరస రేఖలంటి కనుపట్టెడుఁజూడుము దైత్యుఁడీలతా।
లలనలగండదర్పణతలంబులఁ గుంకుమ పత్రభంగము।
ల్చెలువుగ వ్రాసెనో యన నలిప్రకరాద్వయవాదికైశికా॥

(2) పట్టఁదలంచెనేనిఁ బదపద్మయుగంబువశంబు గాక లోఁ।
బుట్టినబాష్పగద్గదికఁ బోకుమనం బలుకెత్తలేకపైఁ।
జుట్టినసెయ్యపుంబదను చూపులచేసతివెంటనంటిత।
న్పట్టఁగఁబట్టఁగాసెకనుపర్వుఁడువచ్చె రణాభిలాషియై॥

(3) ప్రమదాపాదివయ గ్రపూర్ణమిదిగో వచ్చాకరంబుచుఁద।
త్కబిలామోదసుగంధమారుతముపీఁకఁ ముస్నెఱింగిం
చినఁ।

రమణం బిత్పైసరోవరం బనిలజుఁ రాజీవరాజీపత।
త్సమదాళివ్రజదక్రవాళ బకహంసక్రౌంచనాదంబులఁ॥

(a) మొదటి పద్యమందలి దంత్యతాలవ్య 'చ' కారంబుల స్వేఱువేఱుగ లిఖించునది.

(b) 'బాష్పగద్గదిక' 'గండదర్పణము' అనుచో సమాసంబు లిట్టివని కారణసహితముగఁ దెల్పునది.

(c) 'పత్రభంగము' 'వదను చూపులు' అనుచో విశేషము లేమి.

(d) 'కైశిక' ఈ తద్ధితాంతమునకు మూలపద మెద్ది? ఇట్టి తద్ధితములు మఱి రెంటి నుదహరింపవలయు.

(e) 'పట్టగఁబట్టగా' ఆమ్రేడితమునకుఁ బ్రయోజన మేమి?

(f) మూడవ పద్యమందలి యలంకారముల పేర్లేమి? లక్షణ సహితముగఁ దెల్పవలయు.

III. (a) 'జనత' ఈ శబ్దమందు 'త' ప్రత్యయార్థమేమి? ఈ ప్రత్యయము మఱి యే యర్థాంతరమునం దుపయోగింపఁబడుచున్నది? ఉదాహరించునది.

(b) కవ్వడి - విదిర్పు - వ్రేపాపలు - ప్రాణవిభుం బెడఁబాయ నేర్తురే - ఈ రూపంబుల కాధార భూతంబులైన వ్యాకరణసూత్రంబుల వ్రాయవలయు.

(c) నెఱక - వ్రేకము - మరకతము - జోహారు - బూమియ వీనికి రూపాంతరము లెట్లు?

(d) పలువ - తనుత్రము - కౌఁగిలి - కాందిశీకత్వము - బలిభుక్కు - యథాజాతులు - నక్కిట్లు - వ్యుత్పత్తులెట్లు?

IV. (1) జాలంధరోధ్యాణమూలాఖ్య బంధత్రయాబంధు సంధు క్షితస్పర్శనస్పర్శ నిర్గ్రథితగ్రంథిషట్కాంతరోన్నిద్ర

కద్రూనుత శ్రీముఖజ్వాలవల్లీ పరిష్వంస మానేందు నిష్పంద సర్వాంగ నిష్పందయోగీంద్ర హృద్వేదిశా వాస !

(2) గతిముచ్చిలఁగవేచు గాలిద్రావఁగఁ బాము నిడిన కైవ డిఁగాలి కడియమమర.

(3) ఆ దీవి మానోజ్ఞకంబేమని విన్నవింతును ? ఎక్కడఁజూ చిన, నవ్వరస్పమన్వితంబును నుమనోవిరాజి తంబు నునయి, మాఱట స్వర్గంబునాఁ జూడ్కికివేడ్కఁ గొలుపుచున్నది.

(4) మనవారిత్తఱి వైరిందారసించి బీరంబులు తోరంబులు గాఁబోరిన వచ్చునాగౌరవము గౌరవము గాని యందులకుంగాని యీ యాకార గౌరవంబు గౌర వంబుగాదు.

వీని యర్థముల స్పష్టీకరించునది.

V (1) 'లేడికడుపున పులి పుట్టునె'

(2) 'ధర్మస్యత్వరితాగతిః'

(3) 'రోయఁబోవు తీవియ దైవయోగంబునఁ గాళ్లంబెనఁ గొన్నతీరు.'

(4) 'ఎఱిగెడివాఁడె విఱిగెడివాఁడు'

(a) ఈలోకోక్తుల సందర్భములను సూచింపవలయు.

(b) 'ధర్మస్యత్వరితాగతి'. శ్లోకమును పూర్తి చేయునది.

(c) 3, 4. వీనికి సరియైన యితర లోకోక్తులను వ్రాయ వలయు.

VI. ఉమియగఁ, తన్నఁ, నవ్వఁ, అనఁ, ఒప్పుముగాం

చిన కొన్నిమ్రాఁకులు, ఆ ప్రమదల నప్పగింపుఁడని రంజిలు నేఁతలుగన్న చెట్లకుందమకు, ఆళిశృంఖలన్నెనఁ దెనో యన్నట్లు, వనాళియొప్పెనని, గ్రంథాంతరమందు వర్ణింపఁబడియె.

ఇచట, 'ఒచ్చెము' గాంచిన మ్రాఁకు లెవ్వి? రంజిలు నేఁతలు, అవి తన్న భూజములు, ఎవ్వి?

VII. (1) 'వర్ధకము' లక్షణమేమి?

(2) 'అరిమిత్రవర్జితుఁడయి సమబుద్ధియగు మహీవల్లభునను శాసనమున'

(a) గణ విభజనఁజేసి యతిస్థానములఁ దెల్పునది.

(b) వృత్తాది భేదములలోనిది యెద్ది?

(c) దీనికిని 'ద్విపద' కు గుండు భేదాభేదములను జూపవలయు.

VIII. (a) (1) శచీకరవిరచితంబులగు పారిజాతకుసుమోపహారంబులవలన . . . . . నరరత్న సథర్థిణి నిర్మితంబులగు రంగవల్లీ మతల్లికలవలన నయసోత్సవంబావహిలం బ్రవేశించి శాసనవహ్నివైశ్వతవాసతేయాదరణ వరుణవాయు వసువల్లభ వామదేవుల వరుసవిడ్కాల్పి, &c.

ఇందులో దిక్పాలకుల పత్నులను, దిక్పాలకులను బేర్కొన్న విధంబులందలి విశేషణములేమి? అట్టి విశేషణములకుఁగారణము లిందు.

(2) అని పలికిన గర్వోక్తులు। విని వనపాలకులు చాలవిస్మితులగుచుఁ। జని చెప్పిరంతయునుదా। రనిమిషపతికింబులోమ జాస్త్రీతునకుఁ॥

పులోమజాన్వి తునకుఁ' ఈ విశేషణమువలని ప్రయోజనమేమి?

(3) 'ఆనిన విని కర్ణుండు వెల్లనైయెద్దియుంజేయునది నేర కదీర్ఘోష్ణ నిశ్వాసవ్యాకులవదనుండై యాకాశం బుననున్న యాదిత్యుంజూచుచు మిన్నకుండె' పరిభవమొందినవా రవనతులైయుండుట సాధారణ ధర్మమైయుండ్ కర్ణుండు తద్వ్యతిరిక్తముగఁ బ్రవర్తించుటేట్లు ఘటించె?

(b) (1) 'ఇంకనయిన మమ్ము నెఱుగంగనగు నెక్కొయనుచు నుల్లసంబులాడి ద్రుపదు విడిచివుచ్చె, ఇట్లు ద్రోణుండు చెప్పుటకుఁ గారణమేమి?

(2) 'తార్క్ష్యుఁడై నన్నదీయామో ఘాశనిపాత మిట్టిదని యాహ తెల్పఁడాయెంజుమీ'

తార్క్ష్యుండాయశనిపాత మిట్టిదని తెల్పిన నదెట్టిదని తెల్పియుండు? కారణ మీవలయు.

(3) 'రాజ్యగిరిలజ్జావంకముం గీర్తినిర్ఝర పూరంబులచేఁ దొలంచితిగదా రామాభిధానంబునఁ' లజ్జా పంకముఁగల్గుటకు హేతు వెద్ది? దాని న్వారించి నదెట్లు?

IX. కిణింకుఁడు దుర్యోధనునకుఁ జెప్పిన రాజనీతి సంగ్రహించి వ్రాసి, అందలి యుక్తాయుక్తములను విమర్శింపవలయు.

TUESDAY, 18TH DECEMBER, 2 TO 5 P.M.

TELUGU : TRANSLATION AND COMPOSITION.

I. Translate into Telugu—[See Urdu Translation paper, p. cii.]

II. Subject of a short Essay in Telugu—
The advantages of visiting foreign countries.

(అన్యదేశాటన ప్రయోజనములు.)

III. Translate into English—

(1) సాలప్రాంశునిజోజ్జ్వలత్కవచశశ్వత్కుండలోద్భాసితుఁ
బాలార్కప్రతిముఁ శరాసనధరుఁ బద్మోగ్రనిస్త్రింశశా
ర్యాలంకారు సువర్ణవర్ణధరుఁగర్ణాఖ్యుఁ జగత్కర్ణపూ
ర్ణాలోలద్గుణుఁజూచి చూపఱు ప్రభూతాశ్చర్యులై రచ్చటన్

(2) వరువడి నెండొరుంజఱిచి పట్టు చునీడ్చుచుఁ ద్రోచుచుంబర
స్పరజయకాంక్షులైన బకపాండవవీరుల పాదఘట్టన
న్ధరణితలంబు గ్రక్కదలెఁ దన్నికటద్రుమవల్లులెల్లజ
ర్జ్జరితములయ్యె నిష్ఠురవిశాలశిలల్ నుఱుమయ్యెనయ్యెడన్

(3) ఇద్దఱహుంకృతిధ్వనులు నిద్దఱఅభూరిభుజారవంబున
య్యిద్దఱముష్టిఘాత జనితేరితదారుణనిస్వనంబున
య్యిద్దఱపాదఘటిత మహారవమున్విని చూపఱెల్లరున్
దద్దయుభీతినచ్చటికిఁదా రెడగల్గఁగఁబాఱిరొక్కటై.

(4) నీయనుజన్ముఁడన్నఖఁడనీకనియింటికివచ్చి జంభదై
తేయవిరోధిచేనపుడు తేజములన్నియుఁగాంచి చేసెన
న్యాయముపారిజాత హరణంబునఁగృష్ణుడు మంచిచుట్టమా
రాయనిపల్కఁగాజనవరంవరచేవిని రెల్లవారలున్.

(5) విలసద్ధర్మవిశుద్ధవృత్తులు యశోవృద్ధుల్ గుణశ్రీయబు
ద్ధులుమధ్యస్థులు గార్యనిర్ణయసమస్థుల్ మానమాత్సర్యదూ
రులునాఁజాలినవారివల్కలతు వైరుద్ధ్యంబుగావించున

జ్ఞాలుభూనాథుల కాప్తులన్ సఖులునై శోభింతు రత్యంతమున్.

(6) అంత మరాళకులాధ్యక్షుండు నిజవళక్షిపక్షి విక్షేపణ జాతవాత వేగసముద్ధూత పాంసుజాత్తంబు భూనభోంతరాళంబుందిరోహించి యంతరిక్షంబలక్షితంబుగాఁ జేయ దురాగ్రహాగ్రహ వేశంబున నెడలెఱుంగక సమగ్ర సన్నాహంబున నుత్సాహంబెసంగఁ జనుదెంచియింగలమ్ములాలుకు నపాంగమ్ముల వైరివీరుల నీక్షించుచు మొనవెనుకం బాలిచినిలిచె. అప్పుడు హిరణ్యగర్భవాహినీసందోహంబు లన్యోన్యాహ్వాననాదంబులును సింహనాదంబులును రోదసీకుహరంబు నిండ వైరి వీరులందలపడి హెూరాహెూరిం బోరిన సంగ్రామం బుద్దామంబుగాఁ జెల్లె.

TUESDAY, 18TH DECEMBER, 10 A M. TO 1 P M

KANARESE: TEXT-BOOKS AND GRAMMAR.

I ఈ పరీక్షేగాగి నీవు ఓదిదగ్రంథగళ కర్తరుయారు? అవరు యావ మఠక్కే సేరిదవరు? యా వాగ్యే బదుకిదరు?

రాజశేఖర విలాసవు యావ పురాణదమేలే ఆదరిసియుంటు. అదు యారింద రన్నడిసల్పట్టిరు?

II మూవు, కెంగు, రాళింబ ఇవుగళ వర్ణనే నీవు ఓదిద 2 గ్రంథగళల్లియూ ఉంటు. ఆ పద్యగళన్ను అథవా అవుగళర్థవన్ను బరియువదు.

III రాజశేఖర విలాసదల్లి కువళవన్ను వర్ణిసువ పద్యవన్ను అథవా అదర అర్థవన్ను బరియువదు.

IV వీరమాకరభక్తియుక్తా। జారిగీయదెమక్కుకెయనిం।
నారిగీవేనే సుత్తలాబలదేవమంత్రీశా।
భూరిమరుషదొళుబ్బిబసవరు।
మారనిర్దెడిగ్గైదిరన్న కుమారియం సద్వినయ
పూర్వరయిత్తు పొడమట్టా.

ఈ కొర్వర్యగొడువ పద్యళు నీవు ఓదిద గ్రంథ ౨౦ దరల్లి ఇదే ఆ పద్యవన్నాదరూ లిఖవా లిదర లిఖవన్నాదరూ బరియువదు.

బలదేవనుయారు? లివన్నరురిరు నిమగేను హొక్తుంటు?

V కలావతి వరిణయదల్లి ద్రోణనందనను కుండలశవనిగె ఒరెద ఆచార్య దక్షిణెయుమూరు. లిపుగళన్న వివరిసి బరియువదు. ఇవుగళన్న ఎష్టరమట్టిగె కుండలశవను నడిసిదను.

VI. లిష్టాంగ యోగగళందరేను? లిపుగళిఖవన్ను వివరిసి బరియువదు.

VII "మూరేరడుగుణగళం మరెయద్వైదంగగళ నీరేరడు పాయగళ మూరుమూరాగిరువ శక్తిసిధ్యుదయ దృష్టిగళ స్వరూపమం సమ్యగ్విమర్శియంగ్యేదు." ఇదర లిఖవన్ను సంపూర్ణవాగి బరియువదు.

VIII. "క్షకేణ సరమంకెళి మలగిరువ కేసరియ కేణకే కదవస్థియన్నొందల్యాకే" యేంతయారు యారం నోడి నుడిదర్దు.

IX (a) ఘనసామం తోరదొళ్పేనగె గేడియేనిసిత్తర్కటాక్కం మనిమిత్రన · కేజర్కడ్డలాదిం; ద్విజగకి

గేడిసిచేఁ; జగత్పంరమేంనింజనిసిత్తారా జడుంసాహి
కనినిసిదినేందుంజడగ్రాహియానా దినేనుత్తం జింతే
యింబిళ్పడుఁదినే, కదబ్దంశరస్నేఘమిరుఁం

(b) భృతజంజలమతిజవల।
స్థితిజడభరితం కటుస్వరంబరమేఘం।
సుతడుంసరళదుఁదు; మలి।
నతరంబరి, శుజిసువృత్తనేనిదఁవనే ?

ఇవుగళ అర్థవన్ను బరియువదు. ఇవుగళు యావదరు గళన్ను సూచిసుత్తవెయో ఆ రుతుగళ వర్ణనేయన్ను నిమగి జ్ఞాపకవిద్దమట్టిగే బరియిరి.

X. (a) కళగఁశేదళ్ళురి, ముసురేదఁళిగళే పూసమసిగళాగి, మదనన బాణా
వళియంకాస్త్రగళ్ళే కోల్జ్వళకారుకనిట్ట కర్మటం
చోలచేనగుఁ.

(b) భగణ మాక్తిరథరాభ్రకృష్ణనం
దగియలింద్రధనురిదద్రిభాండదిం
కేగదు కౌర్ధనవనీతపిండమం
బగేయోల్లు దమృతాంశుమండలం.

ఇవుగళల్లిరువ అలంకారగళన్ను హేళిరి

XI. (a) మున్నమున్నేరినొళ్పుట్టిదుచ్చైఃశ్రవగళంతే
(b) పావకను పాండవనిత్తకేరంతే
(c) వాసవను గోవర్ధనాచలదమేలే వర్షిసిదంతే
(d) మున్నివరు పుట్టిద్దొడవనిమున్నేరినొళగాటవళే దిరిజభు జవశాగి; జానకియు దురుళదశకంధరన బనది శేరే యిరువళే వరుషపరియంత; నరనన్నుగ సంగ్రామ దల్లి మడియువనే ?

ఇవుగళింద సూచిసల్పట్ట పూర్వకథిగళ్యావవు ?

XII (a) అళియం పూగంగినేంనీమగళిజపళి; పుత్రంకరం రాజ
యట్కొ
కుళనేంన్నైశ్వర్యమం నిర్జరరిరవదర్శంసోల్పిసంపు
ట్టిరేన్నం
కళశప్రోద్భుతనందిరంటిద నరట! మహాభంగమంతొ
ళ్దినేంచిం
దొళగం భోరాశిజంతొన్నియనేరళిదవోలొవర్వనం
తస్థమిర్కుం

(b) వదనరుచియిండెపరిభవి ।
సదిరేంమయ పరియనేందు తొరాంగినేరు ॥
సుందరియవదయుగకొంద్దిర ।
గిదరేంబుదనింబుగెద్దువవళడియుగుర్గళ్॥

(c) కళకంఠీరళనాదకాకుళి, మిళద్భృంగావళీరావమంజు
ళగీతం, శుకవందివృందనినదం మందానిలాందోళి
తోజ్జ్వళవల్లీమృదులాస్యమొప్పిరి, వనశ్రీవల్లభం
సమ్మదం దళదీత్తం దనమందవైభవయుతం జేష్ట్రక
క్షమాధీశ్వరం.

(d). నాట్యుజ్జనాళినీజనాళి ద్రుతనాళివిళంబమాగి స్వరి
తొను దాత్తప్రజతోదాంతగళింబ మోఘస్వరి
జతుష్టయగళిం.

(e) వంబాస్య విక్రమను దంష్ట్రాభంగ దింవంబాస్యనంతే
రోష పరవశనాగి,

ఇవుగళధర్వన్ను వివరిసి బరియువదు

XIII పొరెదిగద పన్నగ, ఋషనయన, శిరశిలీముఖ. మాగ
ధరు, జతురంతయాన, శిబిర,,ప్రిం, వారవాగ,

జలజ, శ్నశ్రు, జిష్ణుజరేతా జలపాలక, ప్రభంజన, ఖగ, పీలి, శళకంఠి, కిగ్మాంశు, శ్రీకుటుంబగిరి సుతాముఖ, భాస్వద్దీక్షే, ప్రకీర్ణారి, కోయజాక్ష, వక్స్పతి.

ఇవుగళ అర్థ నిమగెతిళిదమట్టిగె ఆ అర్థ యావమూల కబరువదో అదన్ను బరియువదు.

XIV. మయ నూండవ్యరుయారు? ఇంద్ర మన్మథ సూర్య ఇవరుగళిగె నీవు ఓదిద గ్రంథగళల్లి బందిరువ ప్రతి నామగళల్లి ఆరన్ను (6) హేళువదు.

XV. మాత్రే, గణ, ప్రాసవేందరేను?

XII (c) ఇదు యావవృత్తదల్లిది? అదన్ను వివరిసి బరియువదు.

జంపకమాలావృత్తక్కూ మత్తేభ విక్రీడిత వృత్తక్కూ ఇరువ వ్యత్యాసవన్ను బరియువదు.

గద్యవందరేను? పద్యవందరేను?

XVI. రాజశేఖరవిలాసద మొదలినల్లి సురవికురవివర్ణనెయంటు. అదన్న సంక్షేపవాగి బరియువదు.

XVII. కళి, బళి, నుళి, బా, కొ, కుశి, కుశి, ఈ ధాతుగళిగె భూతభవిష్య ద్వర్తమానన్యూన నిషేధవిధిగళంను పురుషత్రయక్కే సేరిసిబరియువదు.

XVIII. కుళగన్నడదల్లి వళ, వళ్ళ, ఆయ్తు, వడిగ, తుటిగ, వగిగ, ప్రత్యయగళన్ను పదగళిగె సేరిసువదుంటు. ఉదాహరణెగళన్ను కొడిరి.

అక్షగే ఎష్టువిధవు? అవుగళన్ను ఉదాహరణె సహిత బరియువదు.

యోగవందరేనా ? రూఢవందరేనా ? యోగరూఢవందరేనా ? ఇవుగళన్ను లుదాహరణేనపిత వివరిసిరి.

TUESDAY, 18TH DECEMBER, 2 TO 5 P.M.

KANARESE: TRANSLATION AND COMPOSITION.

I. Translate into Kanarese.—[See Urdu Translation paper, p. cii.]

II. Subject of a short Essay in Kanarese—

The advantages of visiting foreign countries (దేశసంచార ప్రయోజన)

III. Translate into English—

(1) ఇశియం ముర్జా ముసుంకినిశ్చల కెయిత్తాశాధిపగోంటుగోం

టోశి సావ్వంకిరి మాడి వన్ని సబ నానించొందడుం కారమం

కళిదా మారుకనం కరం పిడిదుకన్నైకిల్గళిం నాందిసం

జళనం మాడి కదాప్తనుర్కు మురిదేం పర్బిత్తో న్నిమాగమం

(2) ఎటుత్తం మిల్లనల్లిం మరియమదిరి కేంప్పిట్టిదొడు కుర్కువెత్తా

బాళం మేణ్బళ్కి-సోడుత్తసవసది బిసిల్గెత్తు జీర్ణజ్ఞదంగళ్

మేళం గొండొప్పి శాఖాగ్రదొళడదలుగల్సాసే మేళ్మైకిలిత్తం

కొట్టుంమంగంకరం పల్దిరదు నడుగి కర్దింపు పుర్బిక్కెకాగళ్.

(3) పరిఖావారియొళొయ్యనేట్టు కెరెగొండిసాడి సల్లీ
లెయిం
పరిదాకాలమనేరి మీలిసేవ పీయూషాంశువం రాత్రి
యోళ్
భరదిం రండు కుడుంకలవ్వళిసువాగళ్నధ్య సారంగమొం
దిరే కద్భీకియనేన్దు మ్మిదిగేయుదా పాకాళవాకాశనం

(4) అళి మదనంగే బిల్ల కిరువాగి బళల్దవిదేందు జ్యేత్రనుం
మళిసుతవక్కే సార మధుదిలివికరంగొళిసిట్ట బేళ్ళి
యొళ్
పటురేన పొన్న బట్టల సుపాత్రెయ మత్తద జేల్వనా
ర్దరం
గొళిసుదుదుళ్ళలమిఱసుప యూధియ మల్లియ కర్ణి
కారదా

(5) కొడువనిరి కనగే బేకాదుదం బేడువం
బిడువనే బేడువం బరి కంసొళిదుఱదం
కడదపనే కొడువవం కొడువ బేడువరూళగే కొడి
నేంబ బేడనేంబా
ఎడికడిగళిల్లేంబ నాంగుడియనీ పావఱ
కొడవిశరొళ్కండవేందు నడు నడుగి మొరి
యిడు కిరుదవన రాష్ట్రదజనం బేదరి కూడిద గణం
గళ కెరదొళు

(6) అధికరివరిబ్బరొళగానూ
గధనే బలుగ్గి రాజ సూయకే
సదరవను నాకాగేనాకన బండియద మొనేగి
నిధనవల్లదే ధనవ నేరకువ

ಹುದನ ನೀನೇ ಕಾಂಚಿಯಾಕನ
ವಧೆಯ ಹರಿಯದು ನಮ್ಮ ಕೈಯಲಿ ಗಾಯ ಕೇಶಿಂದ

(7) ಕುಂಡಲಶ್ರವನವರ ನುಡಿಗೇಳಿ, ಕವಿಯುತ್ತಿಹ ಕಡುಶೋಕ ಹುರುವಗೆಯ ಧೈರ್ಯದಿಂದೊತ್ತರಿಸಿ, ಸಜೀವನಂ ಕುರಿತು, ಅಯ್ಯಾ, ಅಮಾತ್ಯಶಿರೋಮಣಿಯೇ, ವಿಧಿಯಾಜ್ಞೆಯಂ ಮೀರಲಾರಿಗಳವಲ್ಲದನ್ನು ಬಲ್ಲವರು ಮುಕುರಿ ಸೋಗಮನ್ನುಳಿದು, ಮಿಗಿಲಾದಸೋಗಮಿಲ್ಲ ಕುಪಿತನಾದಿಲರು ಭಗೀರಥ ಶಿಡಿಯ ನೆರಳನಿಂದು ದಿಪ ನಿರ್ವ್ಯಕಿಗೆ ಸಮಮಿಂದು ತಿಳಿದದನ್ನೊದಹ, ಸಿರಿಯರಸನಡಿದಾವರೆಯ ನ್ನೋಳ್ಳೈಸಿ ಭವಮಿಂಬ ಕಡಲಕಡಿಹಾಂಡು ರಿಂಬುವದನ್ನು ತಿಳಿದಿರುವಿವಾದಡಿಯು, ಮತಿಯು ಪರಿಗತಿಮಾಗಲಿಲ್ಲೇನು ಮಾಡುವದು, ಅಗಿನಿಯನ್ನು ಸೇವಿಸುತ್ತ ಪರಿತೊಪ ಶಾಂತಿಯಂ ವಿಷವನುಪ ಭೋಗಿಸುತ್ತ ಜೀರಜೀವಿಯಾಗಬೇಕೆಂದು ಬಯನುವನಂತೆ ಸಂಸ್ಕೃತಿಯಲ್ಲಿ ಸಾಹಸವನ್ನೆ ನಗಿ, ಸುಖವನ್ನೈದುವೆ ನೆಂದನಾದಿಕಾಲದಿಂ ಬಳಲಿ ಕೊಳಲುತ್ತಿಹೆವು, ನುಡಿದುಳಲವೇನದಂತಿರಲಿ;ನಿಮ್ಮಾರ್ಜ್ಜನು ಕುಶಲಿಯೇ? ಎಂದು ಬೆಸಗೊಳ್ಳಲು; ಸುಭಗ ಯುಷ್ಮದ್ಭಗಿನಾವಿಷಯ ನಾಗಿಹುದರಿಂ ಕುಶಲದಿಂದಹನೆಂದು ಮಂತ್ರಿ ನಾಜಿಸಿದನು.

TUESDAY, 18TH DECEMBER, 10 A.M. TO 1 P.M.

MALAYALAM: TEXT-BOOKS AND GRAMMAR.

I. താഴെ എഴുതിയിരിക്കുന്നവൃത്തങ്ങളിൽ കിഴ്പ്പറയിട്ടിട്ടുള്ള പദങ്ങളുടേ പ്രയോഗങ്ങൾ എന്ത?

(a) ശ്രീരാമചരിതംനിചൊല്ലേണംമടിയാതേ.

(b) ശ്രീരാമനാമംപാടിവന്നപൈങ്കിളിപെണ്ണേ.

(c) ആവൊളംവന്ദിക്കുന്നെൻ

(d) അവനെചെന്നായൊ ബന്ധുഭവനെ ചെ

(e) നിസ്സങ്കാമിചാമിവ. ന്നായൊ

(f) അപരിഹരണീയവിധിയന്ത്രത്തിരിപ്പൂന്നീ.

II (a) പരിണാമം - ബഹുവ്രീഹി - രൂപകം - അ
ധികരണം - ഇവകൾ എന്ത?

(b) കണ്ണട - മുല്ലപ്പൂ - ആറുവഴി - കന്നൽമി
ഴി - പപ്പാതി - ഇതുകളുടെ സമാസങ്ങ
ൾ പറക.

III നളചരിതംകഥ കളിപ്പാട്ടം രാമായണം കിളിപ്പാ
ട്ടം ഉണ്ടാക്കിയ കവികൾ ആർ? ഇവരാ
ൽ ഉണ്ടാക്കപ്പെട്ട വേറെ ഗ്രന്ഥങ്ങളുടെ
പേരുകൾ പറയാമൊ.

IV ഇടര - ചാൎത്ത - അരിമ - അരിപ്പം - പാമ്പെൽ-
അടൻ - തോയും - അവടം - അവനെ-
ആശ - അരിക്കൻ - അദ്വയൻ - അ
ദ്ധ്യാത്മരാമായണം - നിഷ്ക്രിയൻ - ക്ഷാ
ളിതം - പങ്കജിസ്യന്ദനൻ - ഇവകളുടെ
അൎത്ഥം എന്ത?

V (a) ദമയന്തി തന്നെ ആപത്തിൽനിന്നും രക്ഷി
ച്ച കാട്ടാളനെ ശപിച്ച ഭസ്മമാക്കിയ്യ ശ
രിയായൊ - അഭിപ്രായം കാരണസ
ഹിതം എഴുതുക.

(b) ദമയന്തി വേറെ ആരെ എങ്കിലും ശപിച്ചിട്ടു ണ്ടൊ ഉണ്ടെങ്കിൽ ആരെ - എപ്പോൾ എന്തിന.

VI പ്രീതിപ്രദേസ്മിന്നൃതുവർണ്ണരാജേ
സ്ഫിതപ്രകാശെനിഷധൌഷധീശെ
നിശാന്തശാന്തെതതആവിരാസീ
ദ്വന്ത്വാ മൃതാവാണ്ടയകൌമുദീയം.

ഒരം ശ്ലോകത്തിലെ (1) അന്വയം (2) അലങ്കാരം (3) ഭാവം എഴുതുക.

VII (a) ദശരഥന്റെ മക്കൾക്ക രാമൻ - ലക്ഷ്മണൻ- ഭരതൻ - ശത്രുഘ്നൻ എന്ന പേരുകൾ പറവാൻ എന്തുകാരണം.

(b) രാമായണം കിളിപ്പാട്ടു എന്ന പറയുന്നത എന്തുകൊണ്ടു

(c) ബാലകാണ്ഡത്തിലെ വൃത്തം എന്ത ?

(d) ബാലകാണ്ഡത്തിൽനിന്നു ഒരം കിളിപ്പാട്ടു ഉണ്ടാക്കിയ കവിയെ കുറിച്ച എന്തെങ്കിലും അറിയാമൊ

VIII (a) ആരിവൾ അവനിതലാമരീ വരനാരീ വപുഷീധൃതമാധുരീ

(b) മഹിതഗുണങ്ങൾ നിന്നിൽ തിങ്ങിയിണങ്ങിയ ഭംഗുരഭംഗി വിളങ്ങി പുകൾപൊങ്ങി ഗുണമംഗി കരിയാതെപോകിൽ

(c) ഏണാങ്കാനനെ യഥുകാനനെദിഗംബരൻ

(*d*) സന്നച്ഛവിവദനം ഭിന്നസ്ഥിതിചരിതം.

(*e*) വിഷ്ണുജോത്ഭവസുതനന്ദനപുത്രൻ.

(*f*) യോഷ്മാർ മകുടഭ്രഷ്ടയായൊരു നിൻവേഷമെന്തിതതിദയനീയം ഭ്രഷ്ടതാകിമസികേന ചിൽകമനീ ഭീഷിതാസി കിമുകഥനീയം ഭ്രേഷ ഏവവചനം വിനാവിശദം പ്രോഷിതേതിത ദനുമെയം ശേഷമെന്നൊടിത ശേഷവും പറകിലേഷ ഞാൻ വിപദിസു സഹായം.

(*g*) സത്രജ്ഞാനാനന്താനന്ദാമൃതാദ്വയൻ.

(*h*) ബഹുമാനിയാഞാനാരേയും തൃണവൽതദപി ബഹുമതം തവചരിതം ഗുണവൽ ഭവദാ ദേശമിനിക്കൊരു സ്വണിവൽ.

(*i*) ഉത്തിഷ്ഠോത്തിഷ്ഠബ്രഹ്മൻ തുഷ്ടോഹംതപസാതേ.

(*j*) നീലലോഹിതശിഷ്യൻ ബാഡവാനലസമൻ.

ഇതുകളുടെ അർത്ഥം വ്യക്തമായി എഴുതുക

IX. (*a*) ദമയന്തി പണ്ണാദനോട പറഞ്ഞയച്ച അടയാളവാക്കും അതിന ബാഹുകൻ പറഞ്ഞ മറുവടിയും കഴിയുന്നടത്തോളം കവിയുടെ വാക്കിൽ തന്നെ എഴുതുക.

(*b*) താഴെ എഴുതിയിരിക്കുന്ന വൃത്തങ്ങൾക്കു ശരിയായ അർത്ഥമുള്ള വൃത്തങ്ങൾ നല്കുക

രിതത്തിൽനിന്നോ രാമായണത്തിൽനി
ന്നോ എഴുതുക.

(1) പാതിയുംമനുഷ്യനുഭാര്യയന്നറിഞ്ഞാലും
മേദിനീപതേഭാര്യവലിയസഖിയല്ലോ.

(2) സജ്ജനസംസർഗ്ഗംകൊണ്ടെന്തൊന്നുസാ
ധിക്കാത്തത
ദുർജ്ജനങ്ങൾക്കുപോലും ബുദ്ധിക്കുശുദ്ധമു
ണ്ടാം.

(3) ജ്ഞാനംമനസ്സിൽജനിയായ്മമ്ലചം
ഞാനെന്നഹംഭാവമഹോജനാനാം.

(4) കല്ലിനോടുതവതുല്യമോഹൃദയ മില്ലതിന്നു
ബതസംശയം.

(5) പൊട്ടിവീണൊരുധനുർധനികേട്ട
ങ്ങെട്ടുദിക്കുകളുമൊന്നുകുലുങ്ങി.

TUESDAY, 18TH DECEMBER, 2 TO 5 P.M.

MALAYALAM: TRANSLATION AND COMPOSITION

I. Translate into Malayalam:—[See Urdu Translation paper, p. cii.]

II. Subject of a short Essay in Malayalam—
The advantages of visiting foreign countries
(അന്യരാജ്യ സഞ്ചാരത്താൽ ഉള്ള ഗുണങ്ങൾ.)

III. Translate into English—

(a) അങ്ങോടിങ്ങോടുഴന്നും വിപിനഭൂവി തളർന്നും
വിചാരം കലർന്നും, തുംഗാതങ്കം വളർന്നും തൃണതതി
ഷുകിടന്നും സുരേന്ദ്രാനിരന്നും, തിങ്ങുംവേദം മറന്ന

ദിവസമനു നടന്നീടുമ നൈഷധേന്ദ്രൻവങ്കാട്ടിൽ കാട്ടുതീതൻ നടുവിലൊരുഗിരം കേട്ടുവിസ്പഷ്ട വണ്ണാം.

"അന്തികേവന്നീടേണം; അഴലെ നീതീത്തിടേണം; എന്തിവണ്ണമെന്നൊഴി നികെട്ടീലയോ പുണ്യക്ഷീത്തെ? കാട്ടുതീയിൽ പതിച്ചേനെ, കളിയല്ലയ്യോ വേകുന്നേനെ, കൂട്ടികൊണ്ടുപോകതാനേ, കുശലം തവവൈരസേനെ വെന്തുദേഹം പാതിപോരും, വിധിവശന്മാരെല്ലാപേരും, ബന്ധുനി യൊഴിഞ്ഞില്ലാരും, ിവവശതമേ നിന്നാൽ തീരും; നിന്നുദന്തം ഭൈമീജാനെ, നിഖലവും ഞാനറിഞ്ഞേനെ, മന്ദിക്കൊല്ലാ മയിദീനെ മരണവെദനാതി ദ്ദനെ."

"പെടിക്കേണ്ടാവരുവ നരികെവൻ കൊട്ടം കാട്ടുതീയിൽ ചാടിക്കൊണ്ടാലൊരു ഭയമിനിക്കില്ല ഞാൻ തൊട്ടവക്കും കൂടിക്കണ്ടാലുടനഴലൊഴിച്ചീടുവെ" നെന്നു ചൊല്ലി തെടിക്കണ്ടോരുരഗപതിയൊടുമുചിവാൻ നൈഷധെന്ദ്രൻ.

" കത്തുന്നവനശിഖി മദ്ധ്യഗനാരേടോ നീതത്വമെ. വവദമെ ചത്തുപോമിവിടെയെന്നുനി നിനക്കെണ്ടാ, ശാപംകൊണ്ടെട്ടാ ചതികൊണ്ടാചാപലംകൊണ്ടാ?

എരിഞ്ഞതീയിൽ ഗിന്നല്ലിനിവെണ്ടുസല്ലാപം, ഇതുന്നുകൊള്ളുക യെൻെറ ചുമലിൽ നീഗതത്വാപം, അറിഞ്ഞതെങ്ങിനെ നീ നൈഷധനെന്നപേരെ, പറഞ്ഞീടണമിപ്പൊളുരെന്നുള്ളതും നേരെഭുജംഗമെന്നുതോന്നിരൂപംകൊണ്ടുനിന്നെ, വിശങ്ക യെന്തെന്നല്ലി അതുചൊ,

ല്ലാംപിന്നെ, ദുശംഗതൊസി ന്യനമാപദം വനവഴെന്ന
ത്തുജം കളഞ്ഞുപറഞ്ഞീ ടെണം നെരുതന്നെ. എന്നുടെ
കഥകളെഎങ്ങിനെ നീ അറിഞ്ഞു. നന്നു നിൻമഹിമാ
നമുക്കുതിരിഞ്ഞു. എന്നോടെന്തു മറവിന്നുതുനിഞ്ഞു.
ചൊന്ന മൊഴിയാൽനിന്നെ ഞാൻദിവ്യനെന്നറിഞ്ഞു।

"നൈഷധെന്ദ്രനിന്നോടു ഞാൻ നേരുതന്നെ
ചൊല്ലാം, വൈഷമ്യമായി വലുതഹൊവിധിജഗതി, മതി
മതിവിശംകതവ മമജന നികട്ടവെല്ലൊ, മഹിമാതിരെ
കത്തിന്നു മന്ദത പിണഞ്ഞുമമ ഊക്കെറുമഹിവരരിൽ കാ
ക്കൊടകാഖ്യനഹം ഓക്കേണമൊരുമുനിയെ മാഗ്ഗെചതി
ച്ചതഹം വ്യാജ്യം കൊപം പൂണ്ടു, മുനിദീഫ്ലമൊരുശാപം
തന്നു,പൊക്കുമഴൽ നളനെന്നുമൊക്ഷവഴി യരുളിപി
ന്നെ."

(b) ബാല്യകാലത്തിൽ മനുഷ്യരുടെ ശരീരവും മ
നസ്സും മരത്തിൻമേൽ പടത്തുന്ന വള്ളി
കൾ പോലെവളച്ചു വാടീവളയുന്നതാ
ണ അവയെഇഷ്ടമുള്ള ആകൃതിയിൽ വ
ളത്താൻ പ്രയാസമില്ല. ആ ഭാസന്മാ
രൊ മൂട്ടാളന്മാരൊആയി തീരുന്നതആ
ക്കാനും പത്ഥ്യമാണൊ? നല്ലതിന്നല്ലെ
എല്ലാവക്കുംകൊതി? അതകൊണ്ടു ഗുരു
ശ്വരവിചാരം തുടങ്ങിയ അനെകസദ്വൃ
ത്തികളാലും മറുതന്ത്രങ്ങളാലും സന്മാ
ഗ്ഗ ജ്ഞാനശക്തിയെക്കുമ്പിപ്പിച്ചു വളത്തി

മനുഷ്യനെ ഇഹലോകത്തെക്കും പരലോകത്തെക്കും ഉതകത്തക്കവണ്ണം ശുദ്ധമനസ്സുള്ളവ നാക്കെണ്ടതാണ.

(c) അഹല്യാഭായി രാജ്യകാൎയ്യങ്ങളെ എത്രയം ശ്രദ്ധയോടും വ്യവസ്ഥയോടും തൻെറ കൎത്തവ്യങ്ങളുടെ പൂൎണ്ണ ജ്ഞാനത്തോടും കൂടി നടത്തി. ആ രാജ്ഞി പകൽ രണ്ടു മണിമുതൽ ആറുമണിവരെയും രാത്രി ഒമ്പതുമണി മുതൽപതിനൊന്നുമണിവരെയും തന്നത്താനെ പ്രവൃത്തികൾനോക്കി ആ സമയങ്ങളിൽ തൻെറ പ്രധാന ഉദ്യോഗസ്ഥന്മാരോടുകൂടി ഇരുന്നു ആവലാധികൾ കേൾക്കയും എല്ലാതുറകളിലെയും നിത്യവേലകളെ പരിശോതിക്കുകയും ചെയ്തു. ഹജ്ജികളെ വാങ്ങുകയും സംഗതി വിചാരണ ചെയ്യുകയും താൻ തന്നെ ചെയ്തിരുന്നു എങ്കിലും വലിയകാൎയ്യങ്ങളെ കൂടക്കൂടെന്നായ കോടതിക്കാരോടും മന്ത്രിമാരോടും കൂടി ആലോചിച്ചുവന്നു.

(d) യത്നിച്ചീടുന്നമനുഷ്യപ്രഭുവോടുനിയതം ലക്ഷ്മി താനെവിളങ്ങും, ദിഷ്ടംകൊണ്ടെന്നുചൊല്ലും ജഡമതികൾ മഹാദുഷ്ടരന്ത്രെ നിനച്ചാൽ - യത്നിക്കേണം സ്വശക്തിഫലമതിനെയുറപ്പിച്ചു ദൈവത്തിൽ വിദ്വാൻ, യ

താംപിരം കഴിച്ചിട്ടതിലൊരുഫലമില്ലെകി
ലെന്തുള്ളദോഷം.

(e) തങ്ങളിൽകടിപിടികൂട്ടുവാൻപലരുണ്ടാം
തങ്ങളിൽപറഞ്ഞുചേർക്കുന്നവർപാരംതുച്ഛം
ഭിന്നിക്കുംജനങ്ങളെ ചേർക്കുന്നപുരുഷനും
സന്നിക്കുചികിത്സിച്ചുശമിപ്പിപ്പവൻ താനും
തന്നുടെസാമർത്ഥ്യത്തെകാട്ടുന്നുമെങ്കിൽതമ്മിൽ
ഭിന്നരുംസന്നിക്കാരുംഉണ്ടെന്നെഫലംവന്നു
മററുള്ളസ്ഥാനങ്ങളിൽആവിധംവിദ്വാന്മാരും
മററുള്ളമൂഢന്മാരുംഏതുമെ ഭേദംനാസ്തി.

WEDNESDAY, 19TH DECEMBER, 10 A.M. TO 1 P.M.

HISTORY.

PART I.

THE RISE OF THE MACEDONIAN EMPIRE.

I. (a) Define the geographical position of Macedonia before the accession of Philip II.
   (b) Why were not the Macedonians regarded as Greeks?
   (c) What circumstances prevented them from taking an earlier part in Grecian affairs?

II. (a) Sketch the character of Philip II.
   (b) What was the basis of his influence in Macedonia?

III. (a) How did the Sacred War (B.C. 357) originate? Explain Philip's connexion therewith.
   (b) How do you account for the fact that the Greeks, who, more than a century before, had resisted the Persian monarch so successfully, were now unable to cope with Philip?

IV. (a) Briefly describe the political organisation of the Persian Empire, and explain its weakness

(*b*) Give a list of the chief battles fought by Alexander in person from the time of his landing in Asia Minor till his death. Write against each the date of the battle and the names of his opponents.

V. Give a short account of Alexander's policy in his endeavours to consolidate his conquests.

VI. Write short notes, giving dates where necessary, on the Peace of Demades, the first Congress of Corinth, the Amphictyonic Council, Philotas, Nearchos, Bessus.

PART II.

FREEMAN'S EUROPEAN HISTORY.

I. What circumstances led to the overthrow of the Roman Republic and to the establishment of an absolute Government?

II. (*a*) Briefly describe the character of the old Teutonic constitution.

(*b*) Explain the origin of Feudal Tenures.

III. How were the political divisions of Europe affected by—

(1) the Peace of Westphalia;

(2) the Peace of Utrecht;

(3) the Treaties of Paris and Vienna (1815).

IV. Write a paragraph upon each of the following:—

(*a*) The Guelfs and Ghibelins;

(*b*) The Great Interregnum;

(*c*) "The Babylonish Captivity;"

(*d*) The Hundred Years' War;

(*e*) The Act of Mediation.

V. (*a*) Assign dates to the following:—(1) The Battle of Pavia; (2) The first Punic War; (3) The Conquest of Ireland; (4) The Council of Trent; (5) The Reign of Terror.

(*b*) Assign important events to the following years:—B.C. 405, A.D. 732, A.D. 1265, A.D. 1798, A.D. 1806.

WEDNESDAY, 19TH DECEMBER, 2 TO 5 P.M.

ARITHMETIC.

I. Simplify the following :—

(a) $(10 - 9\frac{5}{18}) \times \frac{\frac{5}{8} \times \frac{27}{110}}{1\frac{19}{48} \times 7}$ of $\frac{1\frac{3}{16}\text{ of }287}{8\frac{3}{16}}$.

(b) $\frac{\cdot\dot{0}7692\dot{3}}{\cdot\dot{0}3\dot{7}} \times \frac{999}{\cdot\dot{0}2\dot{7}} \times \frac{\cdot001}{111} \times \frac{13}{\cdot\dot{0}0\dot{9}}$.

II. Find, by Practice, the cost of $237\frac{1}{4}$ articles, at £3-11*s*.-$6\frac{3}{4}$*d*. each.

III. Find the value, correct to three places of decimals, of $\sqrt{881} + \sqrt[3]{51}$.

IV. If I have to sell 30 per cent. more than I bought of certain articles for the same money, how much do I lose per cent.?

V. What is the difference between Banker's and True Discount on £1,263 for 18 months, at $3\frac{1}{2}$ per cent.?

VI. A person, who pays 5*d*. in the £ income-tax, finds that a rise of interest, from 6 to $6\frac{1}{2}$ per cent, increases his income by £23-10*s*-0*d*. What is his capital?

VII. A ship, which, with its cargo, is worth £49,941, is insured at 7 per cent. by its owners *A*, *B*, and *C*, for such an amount that, in case of loss, the value of the ship and the premium will be recovered. *A* has an interest in the ship of £26,159-11*s*.-$5\frac{1}{2}$*d*., *B* of £16,647, and *C* of £7,134-8*s*.-$6\frac{6}{7}$*d*. How much will each have to pay as premium?

VIII. After investing £8,750 in the $3\frac{1}{2}$ per cents. at $87\frac{1}{2}$, I sell out on a rise of $1\frac{1}{2}$ per cent., investing what I realise in $2\frac{3}{4}$ per cent. railway stock at 54. What is the increase in my income?

IX. A reservoir is to be emptied, the rate of discharge of the contents being diminished by 100 gallons every hour. The first half will be emptied in 3 hours, the second in 4 hours. How many gallons does the reservoir contain?

X. In a certain meadow there is a crop of 525 stone of grass, which grows uniformly. If 11 oxen turned in would consume all the grass in 48 days, but 6 oxen would require 98 days, what weight of grass would each ox eat in a day?

THURSDAY, 20TH DECEMBER, 10 A.M. TO 1 P.M.

ALGEBRA AND GEOMETRY.

I. Solve the following equations :—

$$4y^2 + 3xy - x^2 = 0.$$

$$(y - a)(x - y) = (x + 2a)(x + y).$$

II. Find for what relation between the coefficients and what values of x the expression $m^2x^2 + bx + c$ is negative.

If x be real, show that the expression $\frac{m^2}{1+x} - \frac{n^2}{1-x}$ can have any real value.

III. Find the sum of the cubes of the first n natural numbers.

Show that the sum of the cubes of any number of consecutive integers (*not* beginning with unity) is divisible by the sum of the integers.

IV. Find the number of permutations of n things taken all together which are not all alike.

Show that 154 numbers less than 1000 and divisible by 5 can be formed with the ten digits, each digit not occurring more than once in each number.

V. Find the greatest term in the expansion of $(x + a)^n$, n being a positive integer.

Show that the coefficient of x^n in the expansion of $\frac{(1-2x)^n}{1-3x}$ is 1 and that of x^{n+r} is 3^r.

VI. Equal chords in a circle are equally distant from the centre.

If six equal chords intersect within a circle and form a hexagon, prove that the sums of the alternative sides of the hexagon are equal.

VII. Inscribe a circle in a given triangle.

A right-angled triangle has a circle inscribed in it and another circle is described touching the hypothenuse and the other sides produced. Show that the sum of the radii of the circles is equal to the sum of the sides containing the right angle.

VIII. Divide a given straight line in a given ratio.

Given the base, the ratio of the sides, and the length of the line bisecting the vertical angle and terminated by the base, construct the triangle.

IX. In a quadrilateral inscribed in a circle, the rectangle contained by the diagonals is equal to the sum of the rectangles contained by the opposite sides.

X. ABC is a right-angled triangle inscribed in a circle, AD bisects the right angle at A and meets the circle again in D. Show that $2AD$ is equal to the diagonal of the square on $BA + AC$.

THURSDAY, 20TH DECEMBER, 2 TO 5 P M.

TRIGONOMETRY AND EUCLID, BOOK XI.

I. Show that the sine and cosecant of an angle are the same as those of its supplement; the cosine, tangent, cotangent, and secant are equal in magnitude to the corresponding functions of the supplement.

II. (i) The tangent of an angle is $\frac{1}{2}$; find the surd expressions for the sine, cosine, secant, and cosecant of the same.

(ii) Find the circular measure (to two places of decimals) of the angle 61°, taking π to be 3·14156.

III. (i) Show that $\tan^2 \frac{1}{2} A = \dfrac{1 - \cos A}{1 + \cos A}$, and that

$$\tan (A+B+C) = \frac{\tan A + \tan B + \tan C - \tan A \tan B \tan C}{1 - \tan A \tan B - \tan A \tan C - \tan B \tan C}.$$

(ii) Prove that $\sin 45° = \sin 75° - \sin 15°$; and

$\operatorname{cosec} 30° = \operatorname{cosec} 18° - \operatorname{cosec} 54°$.

IV. Investigate a formula adapted to logarithms, by which the third side of a triangle (when two sides and the included angle are given) can be found without finding the angles which are opposite to the given sides.

Given $b = 9$ feet, $c = 6$ feet, $\angle A = 64°$, find the side a; log 2 = ·30103, log 3 = ·4771213, L cos 32° = 9·9284205, L sin 56° 11′ = 9·9195083, L sin 56° 12′ = 9·9195929, L cos 56° 11′ 34″ = 9·7453874 and log 8·346 = ·9214787.

V. Given the distance of three remote objects P, Q, R, from each other, and the angles which these distances subtend at a station S in the same horizontal plane, to find the distance of the station S from each of the objects.

VI. A tower standing on a horizontal plane leans over towards the south. At equal distances due north and south of it, the elevations of its summit are α, β respectively. Show that the tangent of its inclination to the vertical is equal to $\dfrac{\sin(\beta - \alpha)}{2 \sin \alpha \sin \beta}$

VII. If two straight lines be cut by parallel planes, they shall be cut in the same ratio.

VIII. If a solid angle be contained by three plane angles, any two of them are greater than the third.

B. A. DEGREE EXAMINATION, JANUARY, 1884.

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

ENGLISH POETRY.

I. (*a*) Whence did Chaucer derive the Tale of the Man of Lawe?

(*b*) What is the moral of the Clerkes Tale?

II. *A* Paraphrase closely, so as to show that you understand each word—

(*a*) Men *myghten asken* why she was not slayn?
Eek at the feste who myghte hir body saue?
And I answere to that demaunde agayn,
Who saued danyel in the horrible caue,
Ther every wyght saue he, maistre and knave,
Was with the leoun frete er he asterte?

(*b*) But oon auow to grete god I hete.

(*c*) That he nas al *tohewe* er he asterted.

(*d*) And spedde him fro the table that he myghte.

(*e*) Flemer of feendes out of hym and here.

(*f*) . . . . . Wel more vs oughte
Receyuen al in gree that god vs sent.

(*g*) She wende he wolde han slawe it ryght tho.

B Give the context of—

(*a*) The plages of the North.

(*b*) And yit Custance hadde of his deth gret riwthe.

(*c*) Who yaf Judith corage?

(*d*) She coude nat adversitee endure
As coude a *poure* fostred creature.

C Write philological notes on the italicised words in *A* and *B*. Explain the syntax of *saue he* and *vs oughte* in *A*.

III. (*a*) Give the meanings of the following words:—
fonde, agrize, fele, sythe.

(*b*) How does Chaucer express the following?—

1. *Without further delay.*
2. *Ask no counsel of me.*
3. *As if he cared nothing.*
4. *In jest or in earnest.*
5. *Caused both great and small to be killed.*

IV. Mention the source of the plot of *Othello?* How has Shakspere deviated from it as regards the motive and aim of the Ancient?

V. Indicate the leading features of Desdemona's character by brief quotations (not more than *five* in all) from the speeches of the other *dramatis personæ* or her own, naming the speaker in each case.

VI. (*a*) Very briefly discuss the question whether Iago's villainy is sufficiently motived.

(*b*) Does he show any trace of a conscience?

(*c*) What passage sets his unrelenting nature in the strongest light?

(*d*) Quote his own answer to the question,
And what's he then that says I play the villain?

(*e*) What are the feigned motives of his hesitation to let Othello know his thoughts? And how is this hesitation overcome?

(*f*) Note down in the fewest words possible the facts, real or alleged, and the arguments on which Othello's conviction rests when he says, *Now do I see 'tis true,* and vows vengeance.

Would a bare statement of them convince an ordinary mind?

If you think not, account for their effect on Othello.

(*g*) Trace the subsequent fluctuations of his mind (noting their causes) till he bids Desdemona go to bed.

What words of Othello unequivocally shew that he must have seen Desdemona between Acts iii and iv?

(*h*) *Iago wounds Cassio in the leg and exit.* Why *in the leg?* And why *exit* leaving Cassio alive?

VII. Show that the action of Acts iii and iv occupies but part of a day.

What interval of time elapses between the scene in which Iago lectures Roderigo on the necessity of patience and the scene in which the latter declares that he will no longer endure to be put off? How do you explain Roderigo's *im*patience?

VIII. The fate of Othello and Desdemona is not without an element of poetical justice. Show how.

IX. *A.* Explain—

(*a*) It is a most pregnant and unforced position.

(*b*) I have much to do
But to go hang my head.

(*c*) [Thou] makest me call what I intend to do
A murder which I thought a sacrifice.

(*d*) I must be circumstanced.

(*e*) He lies to the heart.

(*f*) Speak within door.

B. In what senses, now unusual, does Shakspeare use the words—*question, hint, defeat, repeal, convince?*

X. Write grammatical notes on the italicised words in the following passages—

(*a*) And not by old gradation where each second
Stood heir to the first.

(*b*) . . . . . to the sooty bosom
Of such a thing as thou, *to fear*, not to delight.

(*c*) *You were* best *go* in.

(*d*) 'Twas but a kindred *sound* to move.

XI. *A.* Express without metaphor the meaning of the following quotations:—

(*a*) It is the star to every wandering bark
Whose worth is unknown although his height be taken.

(*b*) I come to pluck your berries harsh and crude,

(*c*) Hence in a season of calm weather,
Though inland far we be,
Our souls have sight of that immortal sea
Which brought us hither.

B. The following are the principal heads of Wordsworth's Ode on Immortality. Expand each into a single sentence.

(*a*) A psychological fact.

(*b*) Explained by another.

(*c*) How the latter is caused.
(*d*) A consolation.
(*e*) Address to objects of nature.
C. Concisely annotate—
(*a*) In Neptune's plea
(*b*) The grim wolf with privy paw
(*c*) That two-handed engine.
(*d*) I laid her down with meikle care.
(*e*) *Soothed* with the *sound* the king grew vain
(*f*) Ilk one takes her leglin.
(*g*) She drew an angel down.
(*h*) And read their history in a nation's eyes.
(*i*) . . . . those obstinate questionings
Of sense and outward things,
Fallings from us, vanishings.

XII. Name the metres in which the Castle of Chillon and the Tales of the Man of Lawe and the Clerk are written.

Scan the following lines :—
(*a*) And knows all qualities, with a learned spirit,
Of human dealings. If I do prove her haggard.
(*b*) My services which I have done the signory.
(*c*) Give the vengeance due.
To the valiant crew !
Behold how they toss their torches on high,
How they point to the Persian abodes.
And glittering temples of their hostile gods.

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

ENGLISH PROSE.

SYMONDS' SHELLEY, TAYLOR'S STATESMAN, CARLYLE'S INAUGURAL ADDRESS.

I. (*a*) Compare carefully, in respect of development of character and opinion, the Shelley of the period about 1812, with the Shelley of 1822.

(*b*) There are certain incidents of his life that have much perplexed his biographers to give an intelligible account of. Mention any two of them.

In what way does Mr. Symonds, in particular, endeavour to supply an explanation that will as far as possible be satisfactory?

(c) What are the special difficulties in the way of understanding and appreciating Shelley's Poetry?

II. Construct sentences illustrating the precise use of the following expressions occurring in your text.

N.B.—The sentences must fulfil these conditions:—

(a) They must show unambiguously that you understand each portion of the phrases given.

(b) They must not be mere definitions of the phrases

(c) They must not be mere repetitions of sentences you may happen to remember in your text.

(1) Pigeon English, (2) a cranky little skiff, (3) warp and woof (figurative), (4) a moral casuist, (5) clap-trap books, (6) *résistance à outrance.*

III. (a) The Cenci and the Prometheus Unbound are both dramas. Bring out carefully in two or three sentences their distinctive characteristics.

(b) What poems of Shelley's would the following epithets best suit?—(1) Self-delineative, (2) elegiac, (3) familiar, (4) satirical, (5) political, (6) lyrical, (7) conversational.

(c) What epithet or descriptive phrase would best give an idea of the character of the Epipsychidion?

IV. The following are quotations from parts of the works of Shelley, Carlyle and Taylor other than those prescribed as your text. You are required to say to which author you would ascribe them, giving in each case reasons for your answer:—

(1) The one Official Personage, royal, sacerdotal, scholastic, governmental, of our times, who is still thoroughly a truth and a reality and not in great part a worn-out humbug—is the Drill-Serjeant who is master of his work and will perform it.

(2) The great writers of our own age are, we have reason to suppose, the companions and fore-runners of some unimagined change in our social

condition, or the opinions which cement it. The cloud of mind is discharging its collected lightning, and the equilibrium between institutions and opinions is now restoring or is about to be restored.

(3) Let us resolve that our society shall consist of none but the gay, the brilliant, and the beautiful—that is, that we will exclude from it all attentions towards the aged, all forbearance towards the dull, all kindness towards the ungraceful and unattractive,—and we shall find that when our social duties and our social enjoyments have been thus sedulously set apart, we have let down a sieve into the well instead of a bucket.

V. (*a*) Give in your own words the fact stated in the following sentence. What position does Taylor use it to illustrate :—

'The leech that is gorged hangs loosely ?'

(*b*) Serviceable talent (for statesmanship) may be inferred from literary merit in the young, not in the old. Why not ?

(*c*) What does Taylor mean by the causative as distinguished from the active sphere of a statesman ? To which of them does he attach the greater importance ? Why ?

(*d*) Whom does Shelley refer to in the following descriptive phrases ? In each case justify the appellation :—

(1) The pilgrim of Eternity. (2) Ierne's sweetest lyrist.

How does Shelley in another poem describe Godwin, Coleridge, Hunt, Peacock, and Horace Smith ? In each case a single line may suffice (or its substance) if it be characteristic. Name the poem.

VI. (*a*) What remarks of Taylor's have been rendered no longer applicable by reforms in administration ?

(*b*) What does Taylor mean by what he calls Legislation by Induction ? Refer to the *Postal Department* in illustration of your remarks.

(*c*) When a Statesman is out of office what are the various

considerations that in Taylor's opinion ought to enable him to bear this with equanimity?

VII. (*a*) Express the meaning of the following passages in plain idiomatic English and without figure:—

(1) To flesh your friend's curiosity and then endeavour to leave him with a *huc usque*, is exposing your faculty of reticence to an unnecessary trial.

(2) He lacked the touchstone of mature philosophy whereby to separate the pinchbeck from the gold of social usage.

(3) Sleep was not in the market at any quotation.

(*b*) 'A man will often be apt at the one operation, yet awkward at the other.'

(1) What is the meaning of *apt* in this sentence?

(2) What does it mean in each of the following phrases?—

apt to teach.
apt to stumble.

(3) Which is its more usual meaning and which its more usual construction?

VIII. (*a*) Why is Carlyle's address called *Inaugural?* How did the word come to have the meaning it bears?

(*b*) In the course of his remarks on reading Carlyle has occasion to mention two distinguished men whom he thinks succeeding generations have neglected. Who are they? State the precise relation in which he thinks the one of them stood to the other.

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

ENGLISH LANGUAGE.

I. Into what periods may the history of the English Language be divided? Mention any linguistic or grammatical characteristics of each of the periods, and give the names of four writers in each.

II. Sketch out a scheme of study in the English language and literature;—as if for the guidance of a friend unable to attend College lectures.

* This must not cover more than two pages of manuscript.

III. (*a*) Characterise, in a line or two for each, the styles of the following writers :—

(1) Milton, (2) Wordsworth, (3) Scott, (4) Tennyson, (5) Johnson, (6) Goldsmith.

(*b*) Name (with approximate dates) the writers of :—

(1) *The King's Quhair*, (2) *Polyolbion*, (3) *The Tale of a Tub*, (4) *The Anatomy of Melancholy*, (5) *Clarissa Harlowe*, (6) *The Defence of Poesie*, (7) *Cato*, (8) *The Advancement of Learning*.

IV. (*a*) Write notes on the grammar of the italicised words in the following :—

1. There may be,—*what* of yeomen, what of commons,—at least five hundred men.
2. Never trust me *but* I am grieved for thy daughter.
3. I could not kill *you* a dog.
4. Foot *it* featly here and there.
5. I have walked my clothes *dry*.
6. The *lesser* light to rule the night.
7. He attended the young athlete, *so to say*, as his training master.
8. If ye love them which love *you*, what reward have *ye* ?

(*b*) Discuss the etymology of :—*Not*, *wast*, *uttermost*, *won't*, *such*, *ought*.

(*c*) The forms 'talented' and 'reliable' have been objected to. Why ? Defend them.

(*d*) Explain and say whence we get :—*Utopian ; euphuistic ; stentorian ; canter ; Alexandrine* (verse) ; *Philistinism*.

V. The following expressions are frequently met with in English. Explain them.

(1) Sybilline leaves, (2) the golden rule, (3) the Tuileries, (4) the wheel of fortune, (5) a forlorn hope, (6) (England's) wooden walls, (7) the poets' corner, (8) the main chance.

VI Give the plot or argument of any one of the following. Name a few of the other works by the writer whose poem you select.

1. Laodamia. 2. Christabel. 3. The Rape of the Lock. 4. Morte d'Arthur.

VII. Explain the terms :—Masque, Epigram, Sonnet, Idyll. Mention one well known composition in each kind, with the name of its author.

VIII. (*a*) How do you account for the great number of double forms, radically the same, (such as *travail, travel,*) that occur in English ? Give examples.

(*b*) Derive :—*Biscuit, dunce, wise-acre, vinegar, sample, Jerusalem* (artichoke,) *window, salary.*

IX. (*a*) To whom should you conclude reference is made in the following ? —

1. "The poet's poet."
2. "The Ariosto of the North."
3. "The blind old bard of Scio's rocky isle."
4. "Poetry was to him the dear solace of perpetual blindness."

(*b*) Name the author of any *four* of the following and explain the four you select :—

1. Very like a whale.
2. In a Pickwickian sense.
3. The Cynosure of neighbouring eyes.
4. Not a word ? Not one to throw at a dog.
5. On hospitable thoughts intent.
6. By the skin of my teeth.
7. What's in a name ? That which we call a rose
   By any other name would smell as sweet.
8. If there's a hole in a' your coats,
   I rede ye tent it;
   A chiel's amang ye takin' notes,
   And, faith, he'll prent it.

X. Expand the following passage in such a way as to show that you have thoroughly grasped Mr. Gladstone's meaning:—

"The railway and the telegraph, the factory, the forge, and the mine; the highways beaten upon every ocean; the first place in the trade of the world, where population would give us but the fifth; a commercial marine equalling that of the whole of continental Europe; these may be left to tell their own tale."—W. E. Gladstone.

TUESDAY, 22ND JANUARY, 2 TO 5 P.M.

ENGLISH COMPOSITION.

I Write an essay on one only of the following subjects :—

(*a*) The respective merits of a despotic and a representative government—where the despot is a capable and well-intentioned man, and the representatives are elected by universal suffrage.

(*b*) The manner in which progress and civilization, as commonly understood, affect the arts; treating the subject under the three heads of—the artist, the materials he uses, the work he produces.

(*c*) The use and abuse of memory in education—taking the term in its broad sense of education throughout life.

(*d*) The manner in which the introduction of the Decimal System into India would affect the general population.

II. Write a short letter in simple idiomatic language, as if to a younger brother, giving him an account of any book, poem, or play, that you have lately read. (No work to be chosen that has been a University text-book within the last four years.)

Note.—Quality is required, not quantity.

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

SANSKRIT: TEXT-BOOKS AND GRAMMAR.

I. (*a*) Mention the sources from which the story of the Mudrārākshasa was taken.

(*b*) How far is the story affected by national beliefs and superstitions ?

II. (*a*) Is there any inconsistency in the story ? and what ?

(*b*) Give your opinion about the moral aspect of the poem, and quote the passage containing the opinion of S'ukanāsa about the policy of Chânakya.

III. Paraphrase the following passage, changing the words of the text as far as possible :—

अथचंद्रापीडोमहाश्वेताचरणाराधनतप:

फलमिदं यदेवं परिजनेप्यनुस्मरणा

दिकंप्रसादभारमतिमहांतमारोपयति
देवी कादंबरीत्युक्त्वा तत्सर्वं शिरसि
कृत्वा स्वयमेवजग्राह॥ तेनच कादंबर्याः
कपोललावण्येनेवगलितेन स्मितालोके
नेवरसतामुपनीतेन हृदयेनेवद्रुतेन गुण
गणेनेव निष्ष्यंदितेन स्पर्शवताह्लादि
नासुरभिणाचविलेपनेन विलिप्यतमेव
कंठेहारमकरोत्॥ आगृहीत तांबूलश्च
मुहूर्तादिवोत्थाय वामबाहुना स्कंध
देशेवलंब्य केयूरकभूर्ध्वस्थितएव कृतय
थाक्रियमाणसंमान मुदितप्रधानराज-
लोकंविसृज्य शनैश्शानैर्गंधमादनंक
रिणं द्रष्टुमयासीत्॥

अंभोधीनांतमालप्रभवकिसलय
श्यामवेलावनानाम्
आपारेभ्यश्चतुर्णां चटुलतिमिकुल
क्षोभितांतर्जलानाम्।
मालेवाज्ञासपुष्पानतनृपतिशतै
रुह्यतेयाशिरोभिः

सामग्र्येवस्खलंतीप्रथयतिविन

यालंकृतंतेप्रभुत्वं ॥

IV. (*a*) Give two meanings of the following words :—

कोण, धार्तराष्ट्र, उत्कलिका, तिमिर, विटप, विग्रह, अवष्टंभ, प्रतिपत्ति, वाम, अवलेप, and as many meanings as possible of बहुदोष, मुकल चंद्रकांत and बहुल.

(*b*) Write a sentence comparing Bana with a brewer by S'abdas'lesha, using two words of double meanings.

V. Explain the following, showing the context where necessary :—

(1) स्वच्छंदमेकचरमुज्ज्वल दानशक्तिमुत्से किनाबल-
मदेनविगाहमानम् ।
बुध्यानिगृह्यवृषलस्य कृतेक्रियाया मारण्यकंगज-
मिवप्रगुणीकरोमि ॥

(2) अक्षीणभक्तिःक्षीणेपिनंदेस्वाभ्यर्थमुद्वहन् ।
पृथिव्यांस्वामिभक्तानां प्रमाणेपरमेस्थितः ॥

(3) कृगुणसंओअदिढाउवाय परिपाडीधडिदपास-
मुही ।
चाणक्कणीतिरज्जूरिउसंजमण ऋजुआजअदि ॥

(4) कर्णेनेवविषांगनैकपुरुषव्यापादिनीरक्षिता

हंतुं शक्तिरिवार्जुनंबलवतीयाचंद्रगुप्तंमया ।
साविष्णोरिवविष्णुगुप्तहतकस्यात्यंतिकश्रेयसे
हैडिंबेयमिवेत्यपर्वतनृपं तद्वध्यमेवावधीत् ॥

(5) जाणंतितंतजुत्तिंजहट्ठिअंमंडलमहिलिहंति ।
जेमंतरवखणपराते सप्पणराहिवेउवचरंति ॥

(6) स्वायत्तसिद्धिषु उभयायत्तसिद्धिषु वा भूमिपालेषु कदाचिदेतत्सभवति ॥

(7) कष्टमेतेषुमुह्यमनेषु परवदुदासिनाः प्रत्यादिश्यामहेवयमनेन ॥

(8) राधेयराज्यलक्ष्म्येवोपपादितांगरागया ॥

(9) अग्निकार्यधूमेनेव मलिनीभवतिहृदयम् ॥

(10) जयशब्दकलकलैरिव तिरस्क्रियंतेसाधुवादाः ॥

(11) कंसबलमिवमधुकरकुलोपनीयमानकुवलयापीडम् ॥

(12) असत्साधनमिवादृष्टांतं ॥

(13) हृदयस्थितकमलिनीरागेणेव रज्यमानेराजीवजवितेश्वरे ॥

(14) ततोनतिचिरादिवगृहीतपादः प्रासाद्यमानइवकुमुदिनीभिः कलुषमुखीः कुपितादवप्रसादयन्नाशाः... उदगादौत्तणोत्सवः सुधामूतिः ॥

VI. (a) Who were the speakers of the following passages? Give the substance of the replies made to them :—

(1) किंकित्तिअंवाअत्थजादंदमादो जणादोदच्छी-
यदित्ति ॥

(2) जाणिदंभदंतेणदेशंतलंचलिदोह्मिताकधेदुभदंतो-
कोदिसोअज्जदिअसो ॥

(3) एषदुरात्माराक्षसप्रत्युक्तयाविषकन्ययापर्वतेश्वरंघा
तितवानिति ॥

(b) Show any beauty you see in the replies in the following dialogues :—

(1) किंणआणातिभदंतोजधा अमच्चरकखसस्सकेलि-
अरोअहंति ॥

रकखसस्सवापिसाचस्सवाकेलिअरोहोहि ॥

(2) अथकिम् एतत्कृतममात्यराक्षसेन ॥

वृषलमयापुनर्ज्ञातं नंदमिवभवंतमुद्धृत्य भवानि-
वभूतलेमलयकेतुरधिराज्यमारोपितः ॥

(3) वृषलभृत्यमिवमामरोढुमिच्छसि..... & ॥

अयेतत्कथं सत्यमेवकुपितआर्यः ॥

VII. (1) शक्यः खल्वेषराक्षसमतिपरिगृहीतोपि
व्युत्तिष्ठमानो निवारयितुम् ॥

(2) नयुक्तंप्राकृतमपि रिपुमवज्ञातुम् ॥

(3) पदातिलोकैर्लोष्टघातंहतः ॥

(4) भयंतावत्सेव्यादभिनिविशते सेवकजनम् ॥

(5) दृष्टकचितशुष्कपल्लवविष्टरानुमितपथिक विश्रमैः ॥

(6) कोदिसोअज्जदिअसो ॥

Point out any peculiarity in the underlined words and expressions in the above passages.

VIII. (*a*) What are the tenses and moods in which the root is reduplicated generally? and state some anomalous instances of reduplication (one only of each kind).

(*b*) Give the aorist (लुङ्) 3rd singular of लिप्, सिच्, ख्या, ज्ञा, and श्लिष्, and the desiderative indicative present (लट्) 3rd singular of ज्ञा, श्रु, स्मृ, दृश् and यज्.

IX. Give the general meanings of the following suffixes with examples :—

त (क्त), तव्य, य(यत्) and अनीय(अनीयर्) and अन(ल्युट्).

Mention also instances in which they convey other meanings.

X. (*a*) किंनागतस्तेश्रवसीविभिंद

न्नरिंदमश्चत्रुजितांपुरोगः।

श्येनामिषीभूतकपोतपोत

जीवातवेशस्त्रनिकृत्तगात्रः

Champurāmāyana.

Who is the person referred to in the above stanza? Is there any allusion to him in the Mudrārākshasa, and on what occasions?

(b) दशरथात्मजयुग्मनिरीक्षण

क्षणसमाकुलबुद्धिरियंदधौ॥

उभयकूलसमुत्थितशाद्वल

भ्रमगतागतखिन्नगवीदृशाम्॥

Champurāmāyana.

This refers to S'ūrpanakhā who was trying to marry one of the two sons of Dasaratha, Rāma and Lakshmana, in the forest.

Is there any passage in the Mudrārākshasa containing a similar idea? Quote it or give the substance.

XI. Scan the following naming the metres :—

उत्तुंगास्तुंगकूलंस्रुतमदसलिलाः प्रस्यंदिसलिलम्॥

क्रूरग्रहस्तकेतुस्चद्रमसंपूर्णमंडलमिदानीम्।

अभिभवितुमिच्छतिबलात् रक्षत्येनंतुबुधयोगः॥

XII. (a) Explain the meanings of the following words :—

चंद्रातप, सनाथ, प्रवीण, निष्णात, वक्तव्यता,

दोहद, and द्विरेफ.

(b) Give a Sanskrit word allied to each of the following :— Concise, dare, eaten, vest, broken, and stable

(c) Mention four verbal or nominal forms of the verb meaning "to be" in Sanskrit with the corresponding forms in modern or old English.

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

SANSKRIT. TRANSLATION AND HISTORY OF LITERATURE

I. Translate into Sanskrit:—

With spirits greatly depressed by his reverses, and still more by the state of his health, which precluded him from taking part in the manly and martial exercises to which he had been accustomed, he felt that he had no longer the same strength as formerly to bear up under the toils of empire. When but little more than thirty years of age, he had been attacked by the gout, and of late had been so sorely afflicted with that disorder, that he had nearly lost the use of his limbs. The man who, cased in steel had passed whole days and nights in the saddle, indifferent to the weather and the season, could now hardly drag himself along with the aid of his staff. For days he was confined to his bed; and he did not leave his room for weeks together. His mind became oppressed with melancholy, which was, to some extent, a constitutional infirmity. His chief pleasure was in listening to books, especially of a religious character. He denied himself to all except his most intimate and trusted counsellors. He lost his interest in affairs; and for whole months, according to one of his biographers, who had access to his person, he refused to receive any public communication, or to subscribe any document, or even letter. One cannot understand how the business of the nation could have been conducted in such a state of things. After the death of his mother, his mind became more deeply tinctured with those gloomy fancies which in her amounted to downright insanity. He imagined he heard her voice calling on him to follow her. His thoughts were now turned from secular concerns to those of his own soul; and he resolved to put in execution a plan for resigning his crown and withdrawing to some religious retreat, where he might prepare for his latter end. This plan he had conceived many years before, in the full tide of successful ambition. So opposite were the elements at work in the character of this extraordinary man.

II. Translate into English—

(1) राजा। (स्वगतम) राज्यं हि नाम राजधर्मानुवृत्तिपरतन्त्रस्य भूपतेर्महदप्रीतिस्थानम्। यतः

परार्थानुष्ठाने जडयति नृपं स्वार्थपरता
परित्यक्तस्वार्थो नियतमयथार्थः क्षितिपतिः ।
परार्थश्चेत्स्वार्थादभिमततरो हन्तपरवान्
परायत्तःप्रीतेः कथमिवरसं वेत्तुपुरुषः ॥
अपिच । दुराराध्याहि राजलक्ष्मीरात्मवद्भि-
रपिराजभिः कुतः
तीक्ष्णादुद्विजते मृदौपरिभवत्रासान्नसंन्तिष्ठते
मूर्खान्द्वेष्टिनगच्छति प्रणयितामत्यन्तविद्वत्स्वपि ।
गूढरेभ्योप्यधिकं बिभेत्युपहसत्येकान्तभीरुनहो
श्रीर्लब्धप्रसरेव वारवनिता दुःखोपचर्याभृशम ॥

(2) कुलेलज्जायाञ्चस्वयशसिचमानेचविमुखः
शरीरंविक्रीयक्षणिकधनलोभाद्भुवनताम् ।
तदाज्ञांकुर्वाणो हितमहितमित्येतदधुना
विचारातिक्रान्तः किमितिपरतन्त्रो विमृशति ॥

(3) पितृनपुत्राः पुत्रान् परवदतिसन्धायपितरो
यदर्थंसौहार्दं सुहृदिचसमुज्झन्ति सुहृदः ।
प्रियंसद्यस्त्यक्तुं व्यसनिनिवयस्ये व्यवनितः
कृतार्थोसावर्थस्तवसतिवणिक्त्वे सुवणिजः ॥

(4) गर्भेश्वरत्वमभिनवयौवनत्वमप्रतिमरूपत्वममानुषश-

क्तिवच्चेति महतीयं खल्वनर्थपरम्परा सर्वाविनयानामेकैकमप्येषामायतनं किमुतसमवायः।

(5) विद्वांसमपि सचेतनमपि महासत्वमप्यभिजातमपि धीरमपि प्रयत्नवन्तमपि पुरुषमियंदुर्विनीता खलीकरोतिलक्ष्मीः।

(6) भगवतित्वत्प्रसादप्राप्तिप्रोत्साहितेन कुतूहलेनाकुलीक्रियमाणो मानुषतासुलभोलघिमा बलादनिच्छन्तमपि मां प्रश्नकर्मणिनियोजयति।

(7) सर्वथानिष्फलाप्रज्ञा निर्गुणोधर्मशास्त्राभ्यासो निरर्थकःसंस्कारो निरुपकारकोगुरूपदेशविवेको निष्प्रयोजनाप्रबुद्धता निष्कारणंज्ञानं यदत्रभवादृशा अपि रागाभिषङ्गैः कलुषीक्रियन्ते प्रमादैश्चाभिभूयन्ते।

(8) धर्ममतिर्भवतुवः सततोत्थितानाम्
सहेक एवपरलोकगतस्यबन्धुः।
अर्थास्त्रियश्चनिपुणैरपिसेव्यमाना
नैवात्मभावमुपयान्ति नचस्थिरत्वम्॥

III. State briefly (1) the distinction which Weber points out between the first and second periods of Indian Literature; (2) Weber's views regarding the origin of the Indian Drama.

IV. (*a*) To what departments of Sanskrit Literature do the following works belong? Name the authors of any ten of them:—

(1) महाभारत; (2) मृच्छकटी; (3) साहित्यदर्पण; (4) किरातार्जुनीय; (5) बृहत्कथासरित्सागर; (6) महावीरचरित; (7) राजतरङ्गिणी; (8) पञ्चतन्त्र; (9) रत्नावली; (10) शिशुपालवध; (11) गीतगोविन्द; (12) अमरकोश.

(*b*) Write short notes on the following names occurring in Weber's History of Sanskrit Literature:— यास्क; पिङ्गल; वराहमिहिर; पतञ्जलि; भास्कराचार्य; कात्यायन; अमरसिंह; भर्त्तृहरि.

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

GREEK: TEXT-BOOKS AND GRAMMAR.

I. What is meant by *reduplication* in Greek verbs? State its laws. What sort of reduplication is peculiar to the Attic writers? Illustrate your answer by examples.

II. What are the chief peculiarities of verbs in *μι*? How would you prove that the conjugation in *μι* is the original one?

III. (*a*) Parse fully the following verbal forms, giving the principal tenses of the verbs they belong to:—

κεκραμένη, ἵξει, ἦρτο, ξυνκαθελοῦσαι, βλάβῃ, προὔβης, παρεστώτων.

(*b*) Decline: *τάλας, γέρας.* Conjugate the present indicative of *ἐπεξιέναι*, and the perfect indicative passive of *ἅπτω*.

(c) Give the derivation and the etymological meaning of ἁλίστονος, ἀκροθίνιον, ἀγνόῤῥυτος, and of the English words *asylum*, *solecism*, *utopian*.

IV. (a) Mark the difference between—

πέποιθα and πέπεικα; ὁ αὐτὸς βασιλεύς and αὐτός ὁ βασιλεύς; γελάω and γελασείω; ἀνάθημα and ἀνάθεμα; αὐταὶ and αὗται; οἴκαδε and οἴκοι; τέκνον and τεκνίον.

(b) Why are the forms σῶμα, σώματος, σωμάτων diversely accentuated?

(c) Re-write, marking the proper accents:—

Εἰσι γαρ και ἐκεινοις οὐκ ἐλασσους χρμηατα φεροντες ξυμμαχοι, και ἐστιν ὁ πολεμος οὐχ ὁπλων το πλεον, ἀλλα δαπανης, δἰ ἡν τα ὁπλα ὠφελει, ἀλλως τε και ἠπειρωταις προς θαλασσιους.

V. Translate idiomatically—

(a) The root of learning is bitter, but its fruits are sweet.

(b) I should like to hear you relating that story.

(c) Remember the benefits you have received.

(d) If he had done so, he would have done me a great service.

(e) That those who associate with the wicked should themselves become wicked is not wonderful.

VI. Translate the following extracts, remarking, from a grammatical point of view, on the words placed between inverted commas:—

(a) Σκύθας δ' ἀφίξει νομάδας, οἳ πλεκτὰς στέγας
"πεδάρσιοι" ναίουσι . . .
οἷς "μὴ πελάζειν," ἀλλ' ἀλιστόνοις πόδας
χριμπτουσα ῥαχίαισιν ἐκπερᾶν χθόνα.

(b) φρένας γὰρ εἰς αὐτὰς "τυπεὶς"
ἐφεψαλώθη "κἀξεβροντήθη στένος."

(c) πρόπασα δ' ἤδη "στονόεν
λέλακε" χώρα
μεγαλοσχήμονα τ' ἀρχαι-
οπρεπῆ στένουσι τὰν σὰν
"ξυνομαιμόνων" τε "τιμάν,"
ὁπόσοι τ' ἔποικον ἁγνᾶς
Ἀσίας ἕδος νέμονται,
μεγαλοστόνοισι σοῖς πή-
μασι συγκάμνουσι θνητοί.

(d) τὴν πεπρωμένην δὲ χρὴ
αἶσαν φέρειν ὡς "ῥᾷστα" γιγνώσκονθ', ὅτι
τὸ τῆς ἀνάγκης ἐστ' ἀδήριτον στένος.

(e) τό τε ἄλλα αὐτοῦ ἀνεσκόπουν, εἴ τί που "ἐξεδεδιήτητο" τῶν καθεστώτων νομίμων.

VII. Τότε δὲ οἱ ἔφοροι, δείξαντος αὐτοῦ τὰ γράμματα, μᾶλλον μὲν ἐπίστευσαν, αὐτήκοοι δὲ βουληθέντες ἔτι γενέσθαι αὐτοῦ Παυσανίου τι λέγοντος, ἀπὸ παρασκευῆς τοῦ ἀνθρώπου ἐπὶ Ταίναρον ἱκέτου οἰχομένου, καὶ σκηνησαμένου διπλῆν διαφράγματι καλύβην, ἐς ἣν τῶν τε ἐφόρων ἐντός τινας ἔκρυψε, καὶ Παυσανίου ὡς αὐτὸν ἐλθόντος καὶ ἐρωτῶντος τὴν πρόφασιν τῆς ἱκετείας, ᾔσθοντο πάντα σαφῶς, αἰτιωμένου τοῦ ἀνθρώπου τά τε περὶ αὐτοῦ γραφέντα, καὶ τἆλλα ἀποφαίνοντος καθ' ἕκαστον, ὡς οὐδὲν πώποτε αὐτὸν ἐν ταῖς πρὸς βασιλέα

διακονίαις παραβάλοιτο, προτιμηθείη δ' ἐν ἴσῳ τοῖς πολλοῖς τῶν διακόνων ἀποθανεῖν, κἀκείνου αὐτὰ ταῦτα ξυνομολογοῦντος, καὶ περὶ τοῦ παρόντος οὐκ ἐῶντος ὀργίζεσθαι, ἀλλὰ πίστιν ἐκ τοῦ ἱεροῦ διδόντος τῆς ἀναστάσεως, καὶ ἀξιοῦντος ὡς τάχιστα πορεύεσθαι καὶ μὴ τά πρασσόμενα διακωλύειν.

Give, in your own words, the meaning of the above sentence, without translating it literally.

Describe its structure. What inference may be drawn thence as to the character of the Greek language?

Recast the whole sentence, breaking it into several sentences.

VIII. Οὕτως ἀταλαίπωρος τοῖς πολλοῖς ἡ ζήτησις τῆς ἀληθείας, καὶ ἐπὶ τὰ ἕτοιμα μᾶλλον τρέπονται.

What are the facts that have inspired Thucydides with this reflection?

IX. Give an idea of the easy process by which the Greek tongue enlarges its vocabulary.

(a) in general;

(b) in regard to the formation of verbal nouns.

X. (a) Archidamus is said to be "ἀνὴρ καὶ ξυνετὸς δοκῶν εἶναι καὶ σώφρων." Show that his speech to the Lacedemonians quite justifies both epithets.

(b) What do we know of Æschylus? Why has he been styled the founder of the tragic drama?

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

GREEK: TRANSLATION.

I. Translate into English:—

(1) ΙΩ. τίς γῆ; τί γένος; τίνα φῶ λεύσσειν
τόνδε χαλινοῖς ἐν πετρίνοισιν

χειμαζόμενον; τίνος ἀμπλακίας
ποινὰς ὀλέκει; σήμηνον ὅποι
γῆς ἡ μογερὰ πεπλάνημαι.
ἆ ἆ, ἔα ἔα.
χρίει τις αὖ με τὰν τάλαιναν οἶστρος·
εἴδωλον Ἄργου γηγενοῦς·
ἄλευ', ἆ δᾶ· φοβοῦμαι
τὸν μυριωπὸν εἰσορῶσα βούταν.
ὁ δε πορεύεται δόλιον ὄμμ' ἔχων,
ὃν οὐδὲ κατθανόντα γαῖα κεύθει.
ἄλλά με τὰν τάλαιναν
ἐξ ἐνέρων περῶν κυναγετεῖ,
πλαναῖ τε νῆστιν ἀνὰ τὰν παραλίαν ψάμμαν.
ὑπὸ δὲ κηρόπλαστος ὀτοβεῖ δόναξ
ἀχέτας ὑπνοδόταν νόμον. ἰὼ, ἰὼ, πόποι,
ὦ πόποι, ποῖ μ' ἄγουσι τηλέπλανοι πλάναι;
τί ποτέ μ', ὦ Κρόνιε παῖ, τί ποτε ταῖσδ'
ἐνέζευξας εὐρὼν ἁμαρτοῦσαν
πημοσύναις; ἐὴ,
οἰστρηλάτῳ δὲ δείματι δειλαίαν
παράκοπον ὧδε τείρεις;
πυρί με φλέξον, ἢ χθονὶ κάλυψον, ἢ ποντίοις
[δάκεσι δὸς βορὰν,

μηδέ μοι φθονήσῃς
εὐγμάτων, ἄναξ.
ἄδην με πολύπλανοι πλάναι
γεγυμνάκασιν, οὐδ' ἔχω μαθεῖν ὅπα
πημονὰς ἀλύξω.

(2) ΠΡ. βραχεῖ δὲ μύθῳ πάντα συλλήβδην μάθε,
πᾶσαι τέχναι βροτοῖσιν ἐκ Προμηθέως.
ΧΟ. μή νυν βροτοὺς μὲν ὠφέλει καιροῦ πέρα,
σαυτοῦ δ' ἀκήδει δυστυχοῦντος· ὡς ἐγὼ
εὔελπίς εἰμι τῶνδέ σ'ἐκ δεσμῶν ἔτι
λυθέντα μηδὲν μεῖον ἰσχύσειν Διός.
ΠΡ. οὐ ταῦτα ταύτῃ Μοῖρά πω τελεσφόρος
κρᾶναι πέπρωται· μυρίαις δὲ πημοναῖς
δύαις τε καμφθεὶς, ὧδε δεσμὰ φυγγάνω.
τέχνη δ' Ἀνάγκης ἀσθενεστέρα μακρῷ.
ΧΟ. τίς οὖν Ἀνάγκης ἐστὶν οἰακοστρόφος;
ΠΡ. Μοῖραι τρίμορφοι μνήμονές τ' Ἐρινύες.
ΧΟ. τούτων ἄρα Ζεύς ἐστιν ἀσθενέστερος;
ΠΡ. οὔκουν ἂν ἐκφύγοι γε τὴν πεπρωμένην.
ΧΟ. τί γὰρ πέπρωται Ζηνὶ, πλὴν ἀεὶ κρατεῖν,
ΠΡ. τοῦτ' οὐκέτ' ἄν πύθοιο, μηδὲ λιπάρει.

(3) Καὶ ὅσα μὲν λόγῳ εἶπον ἕκαστοι ἢ μέλλοντες πολεμήσειν ἢ ἐν αὐτῷ ἤδη ὄντες, χαλεπὸν τὴν ἀκρίβειαν αὐτὴν τῶν λεχθέντων διαμνημονεῦσαι ἦν, ἐμοί τε ὧν αὐτὸς ἤκουσα καὶ τοῖς ἄλλοθέν ποθεν ἐμοὶ ἀπαγγέλλουσιν· ὡς δ' ἂν ἐδόκουν ἐμοὶ ἕκαστοι περὶ τῶν ἀεὶ παρόντων τὰ δέοντα μάλιστ' εἰπεῖν, ἐχομένῳ ὅτι ἐγγύτατα τῆς ξυμπάσης γνώμης τῶν ἀληθῶς λεχθέντων, οὕτως εἴρηται. τὰ δ' ἔργα τῶν πραχθέντων ἐν τῷ πολέμῳ οὐκ ἐκ τοῦ παρατυχόντος πυνθανόμενος ἠξίωσα γράφειν, οὐδ' ὡς ἐμοὶ ἐδόκει, ἀλλ' οἷς τε αὐτὸς παρῆν, καὶ παρὰ τῶν ἄλλων ὅσον δυνατὸν ἀκριβείᾳ περὶ ἑκάστου ἐπεξελθών. ἐπιπόνως δὲ εὑρίσκετο, διότι οἱ παρόντες

τοῖς ἔργοις ἑκάστοις οὐ ταὐτὰ περὶ τῶν αὐτῶν ἔλεγον, ἀλλ' ὡς ἑκατέρων τις εὐνοίας ἢ μνήμης ἔχοι. καὶ ἐς μὲν ἀκρόασιν ἴσως τὸ μὴ μυθῶδες αὐτῶν ἀτερπέστερον φανεῖται· ὅσοι δὲ βουλήσονται τῶν τε γενομένων τὸ σαφὲς σκοπεῖν καὶ τῶν μελλόντων ποτὲ αὖθις κατὰ τὸ ἀνθρώπειον τοιούτων καὶ παραπλησίων ἔσεσθαι, ὠφέλιμα κρίνειν αὐτὰ ἀρκούντως ἕξει. κτῆμά τε ἐς ἀεὶ μᾶλλον ἢ ἀγώνισμα ἐς τὸ παραχρῆμα ἀκούειν σύγκειται.

(4) Ἀνδρῶν γὰρ σωφρόνων μέν ἐστιν εἰ μὴ ἀδικοῖντο ἡσυχάζειν, ἀγαθῶν δὲ ἀδικουμένους ἐκ μὲν εἰρήνης πολεμεῖν, εὖ δὲ παρασχὸν ἐκ πολέμου πάλιν ξυμβῆναι, καὶ μήτε τῇ κατὰ πόλεμον εὐτυχίᾳ ἐπαίρεσθαι μήτε τῷ ἡσυχίῳ τῆς εἰρήνης ἡδόμενον ἀδικεῖσθαι. ὅ τε γὰρ διὰ τὴν ἡδονὴν ὀκνῶν τάχιστ' ἂν ἀφαιρεθείη τῆς ῥᾳστώνης τὸ τερπνὸν δι' ὅπερ ὀκνεῖ, εἰ ἡσυχάζοι, ὅ τε ἐν πολέμῳ εὐτυχίᾳ πλεονάζων οὐκ ἐντεθύμηται θράσει ἀπίστῳ ἐπαιρόμενος. πολλὰ γὰρ κακῶς γνωσθέντα ἀβουλοτέρων τῶν ἐναντίων τυχόντων κατωρθώθη· καὶ ἔτι πλέω ἃ καλῶς δοκοῦντα βουλευθῆναι ἐς τοὐναντίον αἰσχρῶς περιέστη. ἐνθυμεῖται γὰρ οὐδεὶς ὁμοῖα τῇ πίστει καὶ ἔργῳ ἐπεξέρχεται, ἀλλὰ μετ' ἀσφαλείας μὲν δοξάζομεν, μετὰ δέους δὲ ἐν τῷ ἔργῳ ἐλλείπομεν.

II. Translate into English—

Ἀλλὰ καὶ ὑμᾶς χρή, ὦ ἄνδρες δικασταί, εὐέλπιδας εἶναι πρὸς τὸν θάνατον, καὶ ἕν τι τοῦτο διανοεῖσθαι ἀληθές, ὅτι οὐκ ἔστιν ἀνδρὶ ἀγαθῷ κακὸν οὐδὲν οὔτε ζῶντι οὔτε τελευτήσαντι. οὐδὲ ἀμελεῖται ὑπὸ θεῶν τὰ τούτου πράγματα· οὐδὲ τὰ ἐμὰ νῦν ἀπὸ τοῦ αὐτομάτου

γέγονεν, ἀλλά μοι δῆλόν ἐστι τοῦτο, ὅτι ἤδη τεθνάναι καὶ ἀπηλλάχθαι πραγμάτων βέλτιον ἦν μοι. διὰ τοῦτο καὶ ἐμὲ οὐδαμοῦ ἀπέτρεψε τὸ σημεῖον, καὶ ἔγωγε τοῖς καταψηφισαμένοις μου καὶ τοῖς κατηγόροις οὐ πάνυ χαλεπαίνω. καίτοι οὐ ταύτῃ τῇ διανοίᾳ κατεψηφίζοντό μου καὶ κατηγόρουν, ἀλλ' οἰόμενοι βλάπτειν. τοῦτο αὐτοῖς ἄξιον μέμφεσθαι.

III. Translate into Greek (with accents)—

Solon therefore came to Sardis, and Crœsus entertained him in his palace. And on the third or fourth day after his coming, the King commanded his servants that they should show Solon all the royal treasures. So the servants showed him all the things that the King possessed, a very great store of riches. And when he had seen everything and considered it, the King said to him, "Man of Athens, I have heard much of thee in time past, of thy wisdom and of thy journeyings to and fro, for they say that thou wanderest over many lands, seeking for knowledge. I have therefore a desire to ask of thee one question: 'Whom thinkest thou to be the happiest of all the men that thou hast seen?'"

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

LATIN: TEXT-BOOKS AND GRAMMAR.

I. (*a*) Exemplify the most common cases of the use of the genitive in connection, 1st, with verbs, 2nd, with adverbs.

(*b*) Explain the nature of the subjunctive mood, and account for the use of that mood in connection with the relative pronoun.

(*c*) Distinguish between contracted and uncontracted conjugation, and show the several elements of which such verbal forms as *amas*, *amabo*, *amaverimus* are composed.

II. (*a*) Decline in the singular *vomis*, *supellex*, *far*, *temo*.

(*b*) Give the principal parts of the verbs which occur in the following forms in your text:—*decussit, sustuleris, nactus, sinant.*

(*c*) Derive *pabulum, fissilis, edepol, sodes, sycophanta.*

(*d*) Give the exact English equivalents of the following pairs of phrases or words:—*Lentus humor, lenta vitis; demersus in palude, demersus in paludem; stans voluptas, movens voluptas; fas et jura; fidus, fidens, fidelis.*

III. Render, as much as possible, into idiomatic English—

(*a*) Diem conficimus;

(*b*) Salutem ei nuntiet verbis patris;

(*c*) Tecum ipse rides;

(*d*) Rem tibi ut auctorem dabo;

(*e*) Faxo haud tantillum dederis verborum mihi;

(*f*) Iluc et illuc vos versetis licet;

(*g*) Ne digitum quidem ejus causa porrigendum esse dicebant;

(*h*) Nudus ara, sere nudus.

IV. Express in Latin—

(*a*) Whatever others may think of me is of little importance to me, provided I fulfil my duty; for I value more a good conscience than men's opinion.

(*b*) A thousand reasons might be alleged that prevent me from following your advice.

(*c*) Considering his character and his antecedents, I think he deserves that you should rely upon him.

V. Translate, accounting for the grammatical construction of the words in italics:

(*a*) Edepol, fidei *adulescentem* mandatum malæ!

(*b*) Quanquam *hoc* me *ætatis* sycophantari pudet.

(*c*) Nec tamen argumentum hoc Epicurus a parvis petiit, aut etiam a bestiis *quæ* putat esse specula naturæ: ut diceret, ab his, duce natura, hanc voluptatem expeti nihil *dolendi*.

(*d*) *Properato* est opus.

(*e*) Pridie *kalendas* novembris Rosius Regulus iniit ejuravitque.

(*f*) Eo suffragio turbidissimus quisque *delecti*.

(*g*) Depresso incipiat jam tum *mihi* taurus aratro Ingemere.

(*h*) Cæteræ philosophorum disciplinæ, omnino alia magis alia, sed tamen omnes, quæ rem ullam virtutis expertem aut in bonis, aut in malis numerent, eas non modo nihil juvare arbitror quo meliores simus, sed ipsam depravare naturam.

Criticise the structure of this last sentence.

VI. (*a*) Agrestis ad Vitellium remeavit, abnuentique vera esse quæ adferret, atque ultro corruptum arguenti, quandoquidem, inquit, magno documento opus est, nec alius jam tibi aut vitæ, aut mortis meæ usus, dabo cui credas; atque ita digressus, voluntaria morte dicta firmavit.

(*b*) Quid nunc stas? Quin te hinc amoves et te moves? Aperi, deprome inde auri ad hanc rem quod sat est.

Alter both extracts only so far as to make use of indirect speech when direct is used. Account for the forms *abnuenti* (in *a*), *auri* (in *b*).

VII. (*a*) Ipse pater, media nimborum in nocte, corusca
Fulmina molitur dextra, quo maxima motu
Terra tremit, fugere feræ, et mortalia corda
Per gentes humilis stravit pavor.

Translate the above lines and remark on the change of tenses.

(*b*) Qui igitur convenit ab alia voluptate dicere naturam proficisci, in alia summum bonum ponere?

Illustrate from the context the full meaning of this sentence.

VIII. Point out in the following extracts any præ-classical or post-classical forms or modes of expression, and substitute classical ones:—

(*a*) Flens me obsecravit, suone gnato crederem, neve quoiquam, unde ad eum id posset permanascere.

(*b*) A propinquis affinibusque redemptabantur.

(*c*) Libra die somnique pares ubi fecerit horas.

(*d*) Obclusti linguam; nihil est qui respondeam.

(*e*) Adductius quam civili bello imperitabat.

(*f*) Fulguritæ sunt heic alternæ arbores.

(*g*) Quibus ærumnis deluctavi, filio dum divitias quæro

IX. Explain the allusions in—

(*a*) Et pro purpureo pœnas dat Scylla capillo.

(*b*) Et veterem in limo ranæ cecinere querelam.

(*c*) Quæ jam oratio non a philosopho aliquo, sed a censore opprimenda est.

(*d*) Septem autem illi non suo, sed populorum suffragio omnium, nominati sunt.

X. On what day of the month did the *Nonæ* and the *Idus* fall? What purposes did they serve in the Roman calendar?

Draw from your text-books a short portrait of—

(*a*) Antonius Primus,

(*b*) L. Torquatus,

(*c*) Callicles.

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

LATIN: TRANSLATION.

I. Translate into English—

(1) Non alios prima crescentis origine mundi
Illuxisse dies aliumve habuisse tenorem
Crediderim: ver illud erat, ver magnus agebat
Orbis, et hibernis parcebant flatibus Euri:
Quum primæ lucem pecudes hausere, virumque
Ferrea progenies duris caput extulit arvis,
Immissæque feræ silvis et sidera cœlo.
Nec res hunc teneræ possent perferre laborem,
Si non tanta quies iret frigusque caloremque
Inter, et exciperet cœli indulgentia terras.

(2) Numquam imprudentibus imber
Obfuit: aut illum surgentem vallibus imis
Aëriæ fugere grues, aut bucula cœlum
Suspiciens patulis captavit naribus auras,
Aut arguta lacus circumvolitavit hirundo,
Et veterem in limo ranæ cecinere querelam.
Sæpius et tectis penetralibus extulit ova
Angustum formica terens iter, et bibit ingens
Arcus, et e pastu decedens agmine magno
Corvorum increpuit densis exercitus alis.

(3) ME. Hoc, ubi thensaurum effoderis,
Suspicionem ab adulescente amoveris.
Censebit aurum esse a patre adlatum tibi:
Tu de thensauro sumes.
CA. Satis scite et probe:
Quamquam hoc me ætatis sucophantari pudet.
Sed epistulas quando opsignatas adferet,
Nonne arbitraris tum adulescentem anuli
Paterni signum novisse?
ME. Etiam tu taces?
Sescentæ ad eam rem causæ possunt conligi.
Illum quem habuit perdidit, alium post fecit novum.
Jam si opsignatas non feret, dici hoc potest,
Apud portitores eas resignatas sibi
Inspectasque esse. In hujusmodi negotio
Diem sermone terere segnities merast;
Quamvis sermones possunt longi texier.

(4) Cerialis, a metu infamiæ, si licentia sævitiaque imbuere militem crederetur, pressit iras. Et paruere, posito civium bello, ad externa modestiores. Convertit inde animos accitarum e Mediomatricis legionum miserabilis aspectus. Stabant conscientia flagitii mœstæ, fixis in terram oculis. Nulla inter coeuntes exercitus consalutatio. Neque solantibus hortantibusve responsa dabant, abditi per tentoria et lucem ipsam vitantes. Nec perinde periculum aut metus, quam pudor ac dedecus, obstupefecerat. attonitis etiam victoribus, qui vocem precesque adhibere non ausi, lacrimis ac silentio veniam poscebant: donec Cerialis mulceret animos, fato acta dictitans, quæ militum Ducumque discordia, vel fraude hostium, evenissent. Primum illum stipendiorum et sacramenti diem haberent: priorum facinorum neque Imperatorem neque se meminisse.

(5) Cum autem omnia officia a principiis naturæ proficiscantur, ab isdem necesse est proficisci ipsam sapientiam. Sed quemadmodum sæpe fit, ut is, qui commendatus sit alicui, pluris eum faciat, cui commendatus, quam illum, a quo sit, sic minime mirum est primo nos sapientiæ commendari ab initiis naturæ,

post autem ipsam sapientiam nobis cariorem fieri, quam illa sint, a quibus ad hanc venerimus. Atque ut membra nobis ita data sunt, ut ad quandam rationem vivendi data esse appareant, sic appetitio animi, quæ ὁρμή Græce vocatur, non ad quodvis genus vitæ sed ad quandam formam vivendi videtur data, itemque et ratio et perfecta ratio.

(6) Momini me adesse P. Sextilio Rufo, cum is rem ad amicos ita deferret, se esse heredem Q. Fadio Gallo, cujus in testamento scriptum esset se ab eo rogatum, ut omnis hereditas ad filiam perveniret. Id Sextilius factum negabat. Poterat autem impune; quis enim redargueret? Nemo nostrum credebat, eratque veri similius hunc mentiri, cujus interesset, quam illum, qui id se rogasse scripsisset, quod debuisset rogare.

II. Translate into English—

Ego, si ab improbis et perditis civibus rempublicam teneri viderem, sicut et meis temporibus scimus et nonnullis aliis accidisse, non modo præmiis, quæ apud me minimum valent, sed ne periculis quidem compulsus ullis, quibus tamen moventur etiam fortissimi viri, ad eorum causam me adjungerem, ne si summa quidem eorum in me merita constarent. Cum autem in republica Cn. Pompeius princeps esset, vir is, qui hanc potentiam et gloriam maximis in rempublicam meritis præstantissimisque rebus gestis esset consecutus, non putavi famam inconstantiæ mihi pertimescendam, si quibusdam in sententiis paulum me immutassem meamque voluntatem ad summi viri de meque optime meriti dignitatem adgregassem.

III. Translate into Latin Prose—

Amidst this success, Sylla was not unmindful of Murena's danger, but hastened with a reinforcement to that quarter. He found him, however, victorious, and therefore had nothing to do but to join in the pursuit. Great numbers of the barbarians fell in the field of battle, and still greater as they were endeavouring to gain their intrenchments. Sylla says, he missed only fourteen of his men. For this reason he inscribed his trophies *to Mars, to Victory, and Venus*, to show that he was no less indebted to good fortune, than to capacity and valour, for the advantages he had gained.

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

PERSIAN: TEXT-BOOKS AND GRAMMAR.

I. (*a*) Give the English meaning of the following words :—

اسپ کهر – کولي گري – شاط و شوط کردن – دم در-
خوشگل - د رگریبان انداختن طفلے *

(*b*) Give the derivation of the following words :—

قوشچي - قورچي - یوزباشي - کشکچي - وابور - یخ چال *

II. (*a*)

رنجیر - راس - دست - قطعه - مواري - قلاده *

The above-mentioned words are used to express number. Illustrate their use by giving examples.

(*b*)

* خسرو غریب است و گدا افتاده د رشهر شما *

* باشد که از بهر خُدا سوے غریبان بنگري *

Why did the author of this couplet use شما instead of تو and what is this تصرف called ?

III. (*a*) Point out the مجاز in the following sentences —

ابن مرده نمیدانم کي مرد - این فاضل کجا درس میگبرد *

د رآفتاب نشستم - گل من هیچ خبر از بلبل ندارد *

فاروهٔ او را امتحان بکنید - روز بر آمد *

IV. Re-write the following in Persian prose :—

* د رافتاد دریای لشکر بموج *

* چو ماهی زره پوش گردان فوج *

* زمین جمله گردید صرف غبار *
* زخود یلان شد حباب آشکار *
* به توسن نشسته شه پر شکوه *
* چو خورشید رخشنده بالاے کوه *
* امیران همه جا بجا دور شاه *
* بنوعیکه انجم بود گرد ماه *
* زگل در بهاران سپه بود بیش *
* ولي همچو غنچه همه سر به پیش *
* یکے برمیان بسته خنجر رسید *
* ولي بود درلرزه مانند بید *
* یکے درکمان کرده تیر تخش *
* ولي همچو مد الف محض نقش *

V. Explain the use of که , تا and واو in the following :—

او سخاوت اختیار کرد تا کسي مذمت او نکند ـ او حکم داد تا لشکر بیاراستند میان حسن او تا حسن یوسف ـ قحه پیر از نابکاري چه کند که توبه نکند ـ مال فلان بدستش افتاد تا بعد از او بدست دیگر بیفتد - از هجر تو بر آنم که از جان بگذرم او را که زد ـ او در حسن ار او کمتر نیست که هیچ یک نظیر او نتواند شد ـ خالد آمد که عمرو ـ کسی

راحت اخروي نيابد که در عالم حيات ظلم و تعدی روا داشته باشد * سخن گفتن و بکر جان سفتن است * از تو برگيرم و دل باد گري بار کنم - يار آمد و در دست او شمشير بود *

VI. Correct the following :—

شما کجا رفته بودند - آنمهربان کجا رفته بودند - زيد از فلاني دشمن است - من از او دو چار شدم - نان از مرباي سيب خوردم - از کسي سروکار ندارم - پسر او سال پيش ازاين آفت زمانه خواهد شد - من او را يک ماه درخانه نهاده ام - اين رشته خود بخود شکست - اين کس را زلو بچسپانيد - يک رطل روغن زرد و روغن سياه بيار - يک صندلي اينجا بنه *

VII. Scan the following, and state which letter is dropped :—

هر چند دل هر لحظه زبيداد تو خون شد *

VIII. Show what changes have taken place in the following words when transferred from Arabic to Persian, or from Persian to Arabic :—

ليکن - بلي - انعي - ليلي - ابلق - تريان - گوهر - ديباچه فانون - جاموس - فند - فهميدن *

IX. (a) Name the different kinds of sentences here given—

اگر جور شکم نبودي هيچ مرغ در دام نيفتادي *

کردمي شکوه اگر داد رسي يافتمي *

يار مجروح مرا ديده دوان مي آمد *

(b) Show the ellipsis in this line—

* از حیانم نفسے پا برکابي مانده است *

* میرود وقت ببالینم اگر مي آئی *

(c) What is the use of که in the following :—

* سخن بلطف و کرم با د رشت خوی مگوي *

* که زنگ خورده نگردد بزم سوهن پاک *

X. Translate into English the following idiomatic sentences :—

این چیزها را توی کیره بکن - آن زن نروک است - یک زوج ارسي وجوراب انگریزي بخر - آنجا چاله گود بسیار است - او تو دماغي حرف میزند - آن او از بوف کور است الحال او در باغ سبز بمن نشان میدهد - قوزک دست من در رفت - دست من ریشه شده است - میز را تکان مده - او را قلقلي مکن - من بقدر یک تیررس تفنگ ایستاده بودم *

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

PERSIAN : TRANSLATION:

I. Translate into Persian—

Herat is surrounded by a rampart of considerable thickness and a ditch. The city, which lies wholly within the walls, is divided into four quarters by two streets, which cross each other at right angles. The principal one joins the gate of Candahar to the Pay-i-Hissar, and was formerly covered by a succession of small domes, springing from arches which cross the streets. About two-thirds of this magnificent

bazaar still remain; but so choked up with rubbish, and so ruinous, that it has lost much of its attraction to the eye. The solidity of the masonry of this work should have insured its stability; but unfortunately the arches are all defective,—not one has a key-stone. On an average the height of the earth rampart may be taken at ninety feet. The towers on the ramparts are separated from each other only by fifty feet, and those at the corners are massive and very strong. Guns can be mounted only on the latter.

II. Translate into English—

(a) * بعید نیست که این جشن جنةالماوي است *
* صف ملائکه اینک ستاده از چپ و راست *
* هزار اختر خورشید تاج در سجده *
* هزار صفدر جمشید تخت بر یک پاست *
* صفي که چون مژه در پیش حاجیان بیني *
* هزار کوک به هر کوک به هزار لوا ست *
* فضاي عرصه دیگر ستون بار کهش *
* محیط نه رنص هفت قلعهٔ بالا ست *
* زپیل کوه روان بین ز بوق نفخهٔ صعد *
* قیامت است کزین هردو درجهان برخاست *

(b) * پیش شیخ آمد که اي شیخ درشت *
* تو یقین دان که مرا استاد کشت *
* گر بر استاد روم دست تهي *
* او مرا بکشد اجازت میدهي *

* خادم آمد شیخ را اکرام کرد *
* و ان طبق بنهاد پیش شیخ فرد *
* چون طبق بوش از طبق برداشت او *
* خلق دیدند آن کرامت را ازو *

(c) * مسافران بود کو بکذرد زود *
* زخود صافي شود چون آتش از دود *
* بعکس سیر اول در منازل *
* رود تا کردد او انسان کامل *
* بدان اول که تا چون کشت موجود *
* که تا انسان کامل کشت مولود *

(d) هنکامي که رافع قواعد قلعهٔ وجود و حصن آفرین شهر بند عالم شهود حصار قدرت آثار والسَّمَاءِ ذَاتِ البروج را بچراغان وَرَبَّنَا السَّمَاءَ الدُّنيا بمصابیح زینت بخشید ابوالحسن طفل مشرب از روي لهو ولعب بائین شب برات عمل نسموده از افراط آتشبازي و چراغ و مشعل در تماشاي اشتعال لواهب ملاعب اشتغال ورزید وچراغ عشرت بنور سرور روشن کردانید *

(e) زماني که مُذَهَّب قدرت سر اوج طلوع خورشید

را بر دیباچهٔ بیاض صُبح منقوسَ ساخت حاشیهٔ اوراق فلک را بخطوطِ شعاعي جدول کشید نِقاط کواکب را بخط بطلان از نظر انداخت *

WEDNESDAY, 23RD JANUARY, 10 A M. TO 12 NOON.

URDU: TEXT-BOOKS AND GRAMMAR.

I (a) تمهارے اردو درسي کتب کے مصنف کون تهے *

(b) اردو کي حقیقت کیا هي *

(c) کب سے یهه زبان رواج پائي *

(d) اردو کي شعر گوئي کب سے شروع هوي *

II. اس عبارت کو نثر مسجع مین تحریر کرو *

ایک دوست سے مین نے کها که جب رهنا مین نے اس سبب اختیار کیا هي که بولنے مین اکثر اوقات نیک و بد کا اتفاق هوجاتا هي اوْر آنکهه دشمن کی سواے بدی کے کچهه نهیں دیکهي - بولا وه که اي برادر دشمن وو هي بهتر هي که نیکي ندیکهي *

III. ان الفاظ کے معنے انگریزی مین لکهو *

پیشکش — مخلع هونا — کارزار — حنانه — انانه — منانه — منتج — نفس ناطقه *

IV. ان تعریف معہٗ مثال لکھو*

مشبہ — مشبہ بہ — مستعار لہ — صدر — ابتدا —

حشو — عجز — ردیف — اقتباس — تعمید *

V. ان ابیات کي شرح سلیس عبارت مین کیجئے *

(1) (a) لب پر تو نہ لا وعدہ خلافي کے سخن کو*

چھوٹھا نہ کھہین جوہري اس لعل یمن کو*

(b) مرنے رہي ساتھہ زمانے کي دو رنگي *

دکھلایا شب گور کو اوٗر صبح کفن کو*

(c) تصویر یار بہر نکیرین پاس ہي*

رکھدینا میري قبر میں شیشہ گلاب کا*

(2) پہلے بیت کي تقطیع کرو اوٗر بحر بھي بتلاوٗ*

(3) دوسري بیت مین کیا صنعت ہي *

VI. ایسا ایک مادۂ تاریخ شادي کا تحریر کرو جس سے

سنہ ۱۸۸۴ عیسوي بحساب جمل یعنے ابجد ظاہر ہو*

VII. ان اشعار کي غلطي بتلاوٗ*

(1) * اسپہ راضي ہو تو قرآن اوٹھالاوٗن مین *

* رکھہ تو اي ء صحف رو ہاتھہ قسم کھاوٗن مین *(امانت)*

(2) * درد درمان سے المضاف ہوا (آتش) *

(3) * (ع) دلبرے مہر جاں عاشق ناشاد سوز *

WEDNESDAY, 23RD JANUARY, 12 NOON TO 2 P.M.

URDU : TRANSLATION,

I. ذیل مین درج کئی گئی عبارت کا اردو مین صاف ترجمه لکهو*

I cannot name Howard the Philanthropist without remarking that his labours and writings have done much to open the eyes and hearts of mankind. He has visited all Europe,—not to survey the sumptuousness of palaces, or the stateliness of temples; not to make accurate measurements of the remains of ancient grandeur; nor to form a scale of the curiosity of modern art; nor to collect medals, or collate manuscripts; but to dive into the depths of dungeons; to plunge into the infection of hospitals; to survey the mansions of sorrow and pain; to take the gauge and dimensions of misery, depression, and contempt; to remember the forgotten, to attend to the neglected, to visit the forsaken, and to compare and collate the distress of all men in all countries.

II. ذیل مین مندرج کئے گئے نثر اور نظم کا انگریزی مین ترجمه لکهو*

ان بحثون کے درمیان اس مقدمے کے رو سے جسکي تمهید ہوی اکثر مسامحه ہي انمین سے بعض یهه ہي که ذکا اور سرعت فهم اور انکی امثال کو جنس حکمت کي انواع مین داخل کیا حالانکه انہون نے حکمت کی سابق جو سیر کئي ہي بموجب اسکے دو قسمین سبب ہوتی ہین حکمت کا - ہان اگر تفسیر حکمت کي اس طور سے کرین که وہ ایک ملکه ہي جسکے سبب قوت نظري احوال موجودات کي پہچان سے مستحکم ہوتي ہو دو قسمین اسکي انواع سے ہو سکتی ہیں *

* یہہ مجھکو شیوۂ افتاد گي پسند ہوا *
* غیار بھي نہ صبا سے مرا بلند ہوا *
* تمہارا شعلۂ حسن اسقدر بلند ہوا *
* کہ آسمان پہ ستارہ ہراک سپند ہوا *
* خمیدہ ضعف سے ایسا مین دردمند ہوا *
* کہ سایہ پاؤنکا سر سے مرے بلند ہوا *
* لکھا اسیرون کو اسنے جو خط آزادي *
* ہزار طرح لپیٹا مگر نہ بند ہوا *
* کسي نے بات نہ پوچھي پس فنا میري *
* ہما کو بھي نہ مرا استخوان پسند ہوا *
* ہوا گام فرسا بیابان مین *
* سر شام پہونچا نیستان مین *
* کیا صید اک گورکو وان شتاب *
* لگا کر وہین اوسنے کھائی کباب *
* دیا چھوڑ صحرا میں پھر رخش کو *
* گیا خواب میں وہ یل نامجو *
* نمایان ہوا یک شیر ژیان *
* طرف رخش کے وو ہین آیا دوان *
* تکاور سؤ جنگ مائل ہوا *
* ہزبردمان کے مقابل ہوا *

جبکہ قباد والا نژاد فرمانروا ہوا چندے ساز وسامان کي درستي مین تامل کیا پھر بعزم رزم صحبت بزم سے سوار ہوا لشکر اتراک سے دو چار ہوا پہلے جو صف شکن میدان مین نکلا قارن تھا اؤر افراسیاب کي طرف سے شما ساس بدحواس آیا قارن نے سرمیدان للکار لیا جھٹ پٹ مارلیا رستم کا جی کلبلا یا زال سے کہا مین افراسیاب کو طلب کرتا ہون اسکا مقابلہ اب کرتا ہون زال نے جواب دیا وہ گرگ باران دیدہ تو طفل نارسیدہ ہي اؤر کسي کو بلا زور آزما یزدان مددگار ہي دم جنگ یہہ خیال بیکار ہي *

القصہ مصائب راہ کے جھیلتے شکار کھیلتے ہند کو روان ہوے کہین تیر سے شکار گرایا کہین باز جرے کوا اوڑایا ایک مقام پر نئی بات دکھائي بڑي کرامت دکھائي بازدار نے باز کو اوڑایا شکار تو ہاتھہ نہ آیا باز درخت پر بیٹھکر سستانے نے لگا یہہ تابنا دکھا کر بلانے لگا سلطان بھي درخت کے سایہ میں اوتر کر تھلے تھوڑی دیر بھلے پھر مرقبہ فرمایا خزانۂ غیب نظر آیا فوراً بیلدارون کو بلایا درخت گرایا چار ہاتھہ زمین کھودنے کي نوبت آئي دولت لازوال پائي *

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 12 NOON.

TAMIL: TEXT-BOOKS AND GRAMMAR.

PART 1—RAMAYANAM.

I. பூர்வத்தில் அரசன்காலத்திலேயே ஒருவனை இளவரசாக்கும் ஏற்பாட்டின் நோக்கமென்ன? இராமனுககுப் பட்டம் த்ரிக்க நிச்சயித்தபின் வசிட்டர் அவருக்குச் சொன்ன நீதிகளெவை?

II. அடியில்வரும் பாடல்களில் எவையாவன மூன்றுக்குப் பூர்ணமான பொழிப்புரை யெழுதுக :—

(1) ஓர்வி னல்வினை யூற்றத்தி னுருனை
பேர்வில் தொல்விதி பெற்றுள தென்றரோ
தீர்வி லன்பு செலுத்தலிற் செவ்வியோர்
ஆர்வ மன்னவர்க் காயுதமாவதே.

(2) ஏனை நீதி யினியன வையகப்
போனகற்கு விளம்பிப் புலன் கொளீஇ
ஆன வன்னொடு மாயிர மௌலியான்
தான நண்ணினன் றத்தீவ நணணினான.

(3) பரந்துமீ னரும்பிய பசலை வானகம்
அரந்தையின் முனிவர னறைந்த சாபத்தால்
நிரந்தர மிமைப்பிலா நெடுங்க ணீடிய
புரந்தர னுருவெனப் பொலிந்த தெங்குமே.

(4) பொய்வினைக்குதவும்வாழ்க்கை யரக்கனைப்பொருந்தியன்னார்
செய்வினைக்குதவுநட்பாற செல்பவர்த்தடுப்ப தேய்க்கும்
மைவிளக்கியதேயன்ன வயங்கிருடுரக்கவானம
கைவிளக்கெடுத்ததென்ன வந்ததுகடவுட்டிங்கள்.

III. (a) இப்பாடல்கள் என்ன விருத்தங்கள்? இலக்கணத்தோடு சொல்லுக.

(b) இப்பாடல்கள் எந்தெந்த சந்தர்ப்பத்தில் வருகின்றன ?

(c) முதல்பாட்டிலும் நான்காம்பாட்டிலுமுள்ள அலங்காரங்களை இலக்கணத்தோடு விளக்கிக்காட்டுக.

(d) "இனியன" :—இதற்கு வேற்றுமை விரித்துக் காட்டுக. "புலன்கொளீஇ" :—இதில் னகரம் விகாரப்படாமைக்கு விதியாது ?

(e) "கொளீஇ" :—இதற்குப் பகுபதவுறுப்பு, அளபெடையின்பேர், சாதாரண ரூபம், இவை யின்னவென்று கூறுக.

(f) "ஆயிரமௌலியான்" - ஆயிரமௌலியாயிருக்க நேர்ந்தது எச்சமயம் ?

(g) "நெடுங்கணீடிய" - இதில் நீடியது கண்ணுயிருக்க இப்பெயரெச்சம் புரந்தரனைச் சார்ந்ததற்கு விதியென்ன ?

(h) "முனிவரனறைந்த சாபத்தால்" :—சபித்த முனிவன் யார் ? எதற்காகச் சபித்தான் ?

(i) "மீனரும்பிய வானகம்" :—இதில் "அரும்பிய" என்பது வானகத்தைச் சேர்ந்ததற்கு விதியென்ன ?

IV. (a) "வானின் றிழிந்து வரம்பிகந்தமாபூதத்தின் வைப்பெங்கும்" :—இவ்வாக்கியத்தில் பஞ்சபூதங்கள் உண்டான வகையைப்பற்றிச் சொல்லியதைத்தெளிவா யெழுதுக.

(b) காமம், வெகுளி, பொறுமை, இக்குணங்களால் விளைந்த காரியங்களுக்கு நீர் படித்த படலம் ஐந்தனுள் உதாரணமெடுத்து இரண்டு மூன்று வரியிலடக்கி எழுதுக.

(c) இராமன் சுமித்திரையினிடம் விடைபெறப்போன போது அவள் எந்தெந்தக் குணங்களை யெடுத்து வர்ணித்துப் புலம்பினாள் ?

(d) "Fear not for me: when by thy side I go,
My happy feet will never weary grow.
Though wild and rough the thorny ways I tread,
They shall feel softer than a silken bed."

இதுபோன்ற கருத்துள்ளதாய் இராமாயணத்தில் நீர் வாசித்த பாட்டையாவது அதன் பொருளை யாவது எழுதுக.

V. வினைத்தொகைக்கும் வினைப்பகுதிக்கும் பேதமென்ன? ஆகுபெயருக்கும் அன்மொழித்தொகைக்கும் பேதமென்ன? ஒவ்வொன்றுக்கும் ஒவ்வொரு உதாரணம்கொண்டு விளக்கி யெழுதுக.

PART II—KURAL-TIRUVILAYADAL.

VI. (a) "பெருமை" என்பதின் இலக்கணங்களில் முக்கியமானவை எவை?

(b) ஊழிபெயரினுந் தாம்பெயரார் சான்றாண்மைக
காழியெனப்படுவார்.
இதில் உபமான வுபமேயங்களை யெடுத்தெழுதுக.

(c) அன்பொரீ இத்தற்செற் றறநோக்கா தீட்டிய
வொண்பொருள் கொள்வார் பிறர்.
இக்குறளால் பொருளின் பயனென்னவென்று கூறப்பட்டது?

(d) "நாணுடைமை" யாவதென்ன? அதற்குச் சரியான இங்கிலீஷ் மொழிபெயர்ப்பென்ன?

(e) குலஞ்சுடுங்கொள்கை பிழைப்பினலஞ்சுடு
நாணின்மை நின்றக்கடை.
இதின் தாத்பரியத்தை விரித்தெழுதுக.

(f) இரக்கவிரத்தக் கார்க்காணிற்
* * *
இரத்தக்கார்" இத்தொடர்க்கு இலக்கணம் கூறுக.

(g) இன்பமொருவற் கிரத்தலிரந்தவை
துன்ப முறுஅ வரின்.
"துன்பம்" எவ்வகைத்தனவாம்?

(h) இரப்பான் வெகுளாமை வேண்டு நிரப்பிடும்பை
தானேயுஞ் சாலுங்கரி.
இதில் "உம்" என்ன பொருளில் வந்தது? அது எங்ஙனம்?

VII. பூரண வுபமைக் குதாரணமா யொரு செய்யுளையும், சூரிய சந்திர வுதயாஸ்தமனங்களை வர்ணிக்கும் செய்யுட்களுள் ஒன்றையும், திருவிளையாடலினின்றெழுதுக.

VIII. (a) அடியில் வருவனவற்றிற்கு அர்த்தமெழுதுக :—
ஆட்கொள்ளுதல் - குப்பாயம் - தீபகம் - பரமேட்டீ - கொய்யுளை - மலைவன் சிறகரிந்தவன் - மந்துரை - ஞெகிழி - தெய்வமணி - திருவாலவாயுறையுஞ் சிந்தாமணி.

(b) "ஆலவாய்" என்று பெயர்வந்ததேன்?

IX. (a) முயற்சிதிருவினையாக்கும் முயற்றின்மை
யின்மை புகுத்திவிடும்.

(b) சுட்டுதற்கரியசோதி சுருதிவாம்புரவியோடு
மட்டவிழ்தாரினன்முன்வருதலுங்கருணைநாட்டம
பட்டுளமயங்கித்தன்னை மறந்தெழீஇப் பாண்டி
வேந்தன்
றட்டவிழ்கமலச்செங்கை தலைமிசைகூப்பி நின்
றான்.

(c) (அரிமர்த்தன பாண்டியன் மாணிக்கவாசகரை நோக்கிச் சொல்லியது.)
உம்மைநானடுத்த நீராலுலகியல் வேதநீதி
செம்மையாலிரண்டுநன்றாய்த் தெளிந்தது தெளிந்தநீரான்

மெய்ம்மையாஞ்சித்தசுத்தி விளைந்தது விளைந்த
நீராற்
பொய்ம்மைவானவரினீங்கிப் போந்தது சிவன்
பாற்பத்தி.

இச்செய்யுட்களுக்குப் பொழிப்புரை யெழுதுக.

WEDNESDAY, 23RD JANUARY—12 NOON TO 2 P.M.

TAMIL: TRANSLATION.

I. Translate into Tamil—[See Urdu Translation paper, p. clxxviii.]

II. Translate into English—

(1) (a) நோய் நாடி நோய்முதனாடி யதுதணிக்கும
வாய் நாடி வாய்ப்பச் செயல்.

(b) பிறப்பொக்கு மெல்லா வுயிர்க்குஞ் சிறப்பொ
வ்வா
செய்தொழில் வேறுமை யான்.

(c) ஊணுடை யெச்சமுயிர்க்கெல்லாம் வேறல்ல
நாணுடைமை மாந்தர் சிறப்பு.

(2) மண்ணினும் நல்லள் மலர்மகள் கலைமகள் கலையூர்
பெண்ணினும் நல்லள் பெரும் புகழ்ச்சனகியோ
நல்லள் ;
கண்ணினும் நல்லன் கற்றவர் கற்றிலாதவரும்
உண்ணு நீரினு முயிரினுமவனையே யுவப்பார்.

(3) இறக்கினுமின்றே யிறக்குக வென்றுமிருக்கினுமிரு
க்குக வேந்தன்
ஒறுக்கினு மொறுக்க வுவகையுமுடனே யூட்டினுமூ
ட்டுக வானிற்
சிறக்கினுஞ்சிறக்க கொடியதிநரகஞ் சேரினுஞ்சேரு
க சிவனை
மறக்கிலம் பண்டைப்பழவினை விளைந்தான் மாற்று
வார் யாரொன் மறுத்தார்.

(4) తలమేలేత్రిన కల్లుచ్చుమయైచ్ చుమంతుకొండు నిన్రూర్. అప్పటి అవర్ తాంగుకిర పారత్తై అవరా ఆణ్డ కటవుళ్ తాంగుకిరతిణులే వాతలూరిటికళ్ తమక్కుచ్ చుమైతోర్రుమల్ తామ నిర్కిర వెయిలే శివనతు పాతనిళలాక నిన్రూర్.

(5) సొర్ప వేతం ఓతినవనైవిట వేతత్తై కిరతం పార్త్తుప్ పటిక్కత్తక్క వల్లమయుళ్ళవనుం, అవనైవిట ఓతిన వేతత్తై కిరతం పారామల్ సొల్లత్తక్కవనుం, అవనైవిట అన్త వేతత్తిన్ పొరుళై అరిన్తవనుం, అవనైవిట అన్త వేతత్తిల్ విధిత్తపటి అనుష్టిప్పవనుం ఉయర్న్తవన్.

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 12 NOON.

TELUGU: TEXT-BOOKS AND GRAMMAR.

I. "ధర్మతత్వజ్ఞులు ధర్మశాస్త్రంబని యథార్థవిదులు వేదాంతమనియు।

నీతివిచక్షణుల్ నీతిశాస్త్రంబని కవి వృషభులు మహాకావ్యమనియు।

లాక్షణికులు సర్వలక్షణంబనియును నైతిహాసకు లితిహాసమనియుఁ।

బరమపౌరాణికులబహు పురాణసముచ్చయంబని మహిఁ గొనియాడుచుండ।

* * *

విష్ణుసన్నిభుండు విశ్వజనీనమై పరఁగుచుండఁజేసె భారతంబు॥"

(a) అను దాని నను శాసనీకపర్వపు రెండవ యాశ్వాస

మందు సోదాహరణముగ లక్ష్యసమన్వయముఁ జేయ వలయు.

(b) శీలము - శౌచము - సత్యము వీనిగురించి భారతమున మీరు చదివినభాగమునఁ జెప్పఁబడిన ముఖ్యాంశములఁ దెల్పవలయు.

(c) "రిత్తజలములం దోగిన శుచిత్వలాభముగలదే."
"అంగనలకు వశసినట్టులు చేయఁగా వచ్చునెట్లు."
వీనికిఁ బూర్వసందర్భములఁ దెల్పునది.

(d) వసిష్ఠుఁడు - వ్యాసులు - మంద పాలనందనులు - వీరి జన నవిశేషములందెలిపి, బ్రహ్మ క్షత్రియ వైశ్య శూద్రుల లో నొక కులమువారు మఱియొక కులమువారితోఁ బెండ్లియాడుటగురించి చెప్పఁబడియుండు విధి నిషేధములం దెలుపవలయు.

II. కథానాయకుల లక్షణములను దెల్పి, ఆ నాయకులలో యయాతి కృష్ణు లిట్టివారని సహేతుకముగ నిరూపింపవలయు.

III. (1) సరగమిన్నను కమ్మరిసంజ్ఞ కాలిమి।
బెట్టుగాఁగాల్చి బంగారుఁజుట్టువాలు।
పదనుఁబెట్టఁగఁ గొనిపోయిపట్టలేక।
విడిచెనఁబ్రొద్దుపడపటి కడలిమునిఁగె॥

(2) తమ్ములు నక్కొమ్మలకనుఁ।
దమ్ములఁగనుగొనుచు నన్నదమ్ములటంచుఁ।
జుమ్మనిమ్రోయుచుఁ దుమ్మెద।
దిమ్ములువడిమూఁగమునిఁగి లేలుదురతివల్॥

(3) శారికరపల్లవచ్యుతతారకములు।
లలనచికురానుషక్తిసైల్యంబుగనియె।

హరివిస్పష్టత్వమును జికురానుపక్తిఁ।
గలుగఁగామలినత్వంబు గనుటయరుదె॥

(4) యతిజనచిత్తసారసవిహారి ధృతారిజితారిశారిభూ।
పతిమణికన్యకంతమున భావుకసూత్రముగట్టువేళనా।
పతగలలామవాహనుని పాదసరోజపరీతమానభా।
తతరుచిమాకరందఝరిఁ దార్కొనెఁగామిని చూపుతు
మ్మెదల్॥

ఈ పద్యముల తాత్పర్యముల వ్రాసి యందలి యలంకా
గముల నిరూపించునది.

IV (1) ప్రవిమలసితాభ్రశుభ్రాంశుభాసమాన।
యమితతారాళిరమ్యమార్గార్ధ్రియగుచు।
లీలనలరారెనగరీ ప్రతోళియోర
శరదనేహోనిశానభస్సరణికరణి॥

(2) ఉలుపసాలదటంచు నలుగువేలువు ఈనివంటగాదనియగ్గి
నంటఁగట్టుఁ।
బొలునుదేఁడనివేఁది వెలుగుపట్టినిఁగొట్టుఁగని కొల్వఁడని
యు రక్కనునిసెంచు।
నీల్లుదల్లఁడుటంచునీటి ఈనిఁ గలంచుఁగడువీఁచితని గాలి
గాసిఁబెట్టు।
నేదరించుఁగానుక కైపైడిరాయనిఁగడికొత్తిముక్కంటి జడ
లుపెఱుకు॥

(3) ధారాపూర్వకముగఁగ।
న్యారత్నమునెసఁగి ధన్యుఁడయ్యెను సాక్షా।
న్నారాయణునకునాల।
క్ష్మీరమణి నెసంగినట్టి క్షీరాబ్ధిగతిన్.

(a) మొదటిపద్య శ్లేషార్థముసో స్పష్టముగవిశదపరుపవలయు.

(b) రెండవ మూడవ పద్యములందు సాభిప్రాయపదముల నన్నింటిని, వాని యభిప్రాయములు తేటపడునట్లు వ్రాయనగు.

V (a) నెలదిండిగాము - తావిగుబ్బలిదెసయేలుదేవర - కరువలి మేవుడుదొర - రాచపగనేలవేలుపు - తమ్మిపొక్కిలి వేలుపు - పదిరెండుప్రొద్దులు - తిరిపెపుఁజెలిపట్టి - వేల్పుమన్నీఁడు - వీనియర్థముల వ్రాయవలయు.

(b) చిలువ - నెలతాల్పు - కాట్రేడు - పత్రరథము - వేల్పు టొజ్జ - పొలనుదిండి - ఈ పదములకు రూపనిష్పత్తు లెట్లు ?

(c) మరుఁడు - వజ్జ - కదుపు - ఇంగలము - బీరము - ఉలుప - ఈసు - కోయిల - వీనికి ప్రకృతిరూపమెట్లు ?

VI. (a) 'చిత్రకవిత్వము' - 'బంధకవిత్వము' ఇవి యధమ మధ్యమోత్తమ కవిత్వములలో నెందుఁజేరు ? కారణసహితముగ వ్రాయవలయు.

(b) "అరిదరకరపుష్కర భూసురవర సంతానకలితసుశ్రీవత్సా
అరిదరకరపుష్కర భూసురవర సంతానకలితసుశ్రీవత్సా॥"
ఇది తుల్యాదిగోమూత్రికాబంధంబులలో నెద్ది ?
కేవలబంధ చాతుర్యముఁబట్టి యోచించినచో నిష్పద్యమందు గదనావిశేషము ప్రకాశింపుచున్నదా ? సహేతుకముగ వ్రాయవలయు.

VII. (a) వలన - కంటె - చేత - కొఱకు - ఈ విభక్తులే యర్థములయందుఁ బ్రయోగింపఁబడుచున్నవి ? ఉదాహరింపవలయు.

(b) ధాతువునకే యే యర్థములయందు లాడ్వర్ణకంబగు ? ఉదాహరించునది.

VIII. చంద్రునివద్దనుండి యయాతివంశ క్రమముఁదెల్పునదే శాక యయాతి పుత్రులంబేర్కొని, వారి వంశములఁబుట్టినవారి నామములచేఁబరగు దేశములఁగొన్నింటి నెఱింగింపవలయు.

WEDNESDAY, 23RD JANUARY, 12 NOON TO 2 P.M.

TELUGU: TRANSLATION.

I. Translate into Telugu—[See Urdu Translation paper, p. clxxviii]

II. Translate into English—

(1) మించిన యాముఁటేనుఁగుల మీఁదికిఁజెంగుల వాఁటి యాఁదలల్

చించినఁగోళ్లలోఁదవిలిచిందినముత్తెములెల్లచట్లపై
మంచునఁజేరిదాకొనినమాటకి నమ్ములఁద్రవ్వితవ్వియ
ద్భేంచునెలంతలేఱుదురు సింగపుఁజాడలెఱింగి యచ్చటన్

(2) ఆడిగినని చ్చుకంటెనునయావకుఁగాఁకనెఱింగియిచ్చుటె
క్కుడుఫలమిచ్చుదానవిధ కోవిదవేఁడుటచావువేఁడగాఁ
బడుటదిపెద్దచావుతగు ప్రార్థనపూర్ణముచేయునాతఁడా
యడిగినవానిఁదన్నును దయారతిఁగావఁగఁ జాలువాఁ
డగున్

(3) ఆహవపూరుషిళల్ నెలంగ సమరవ్యగ్రాత్తతన్ శాత్రవ
వ్యూహధ్వాంతనిరాసకృచ్ఛటుల శుభ్రాంశులై సిం
ధురా
రోహవ్రాతవదాతిసాదిరథికుల్ గ్రూరాస్త్రఘాతంబులన్
దేహంబుల్ శకలంబులై చెదరగ నెంతేబోరిరత్యుగ్రతన్

(4) హరివూరించెను బాంచజన్యమవుడాశానేక పాళీశ్రవాం
తరముల్ నిర్దళనంబుగాఁగ వసుధాధ్రవ్రాతముల్ దిర్దిరం
దిరుగన్ సాగరసస్త్రకంబు గడుఘూర్ణిల్లన్ దరీసంచర
ద్ధరివారంబుగలంగ శేషఫణినేత్రశ్రేణిభేదిల్లగన్

(5) ఇవ్విధంబున గాంగేయుండు ప్రతియోధుల వేరువేరం
బిలుచుచు నుక్కు మిగిలి దిక్కులమ్ములం బిక్కటిల్లం
జేయుచు నెక్కుడఁజూచినందానయై మెఱుంగుమెఱ
సిన తెఱంగున రథంబు మెఱయశక్తిశౌర్యంబు నెఱయ
నెవ్వరికి నిలువరింపరాక యెదిరినరూపంబులం బెక్కం
టి నెక్కబాణంబునం బెక్కుబాణంబుల నెక్కంటిఁ
గూల్చి కేళిసలుపుచు దృఢత్వలక్ష్యశుద్ధి లాఘవంబులకు
వియచ్చరులు పిచ్చరింపనేక ప్రకారంబులగు క్రూర
శరంబులఁ జతురంగంబులం దునియలుగగుదులుగ
బడలువడంజేయుచుం బ్రళయకాలతాండవ ప్రవర్తి
యైన ఫాలలోచనులీలనాజిరంగంబునం బరాక్రమన్ప
త్యంబు సేయుచున్నఁ బాంచాల యాదవాదియోధులు
వెఱఁగువడి చూచుచుండఁ బాండవులునుంజేయునది
లేక చేష్టలు దక్కినందదీయ సైన్యంబులురూపఱి
భయభ్రాంతంబులై దీనదశకువచ్చె.

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 12 NOON.

KANARESE: TEXT-BOOKS AND GRAMMAR

I. జైమినిభారతపు యారింద రజిసల్పట్టితు? ఆ కవియన్ను
కురితు నిమగేను తిలియువదు? ముద్రాముంజూపవు
యావగ్రంథవన్నిను సరసి బరియల్పట్టిది? జైమిని

భారతద వాక్యరచనేగూ రాజశేఖర విశాసద వాక్య రచనేగూ ఇరువ తారతమ్యవన్ను బరియిరి. ఇవిరడరల్లి కవితా కౌశల్యవు యావదరల్లి చన్నాగి ఇరువదు?

II (a) తొళగువ చంద్రకాంతకలశం బిడిదంబుజ నేత్రనీరినం।
జలిపుటదల్లి నించిరిమి తన్నధురాధరరాగమిశ్రితోం।
జ్జళమరుతాంబువెంపు సిరనిర్పుద నీక్షిసినక్కొడా
కేయు।
జ్వళదశనాంశుమిశ్ర మదుశంకే యనోడి సేపాంథ
నీంటిదం.

(b) తళరవమిల్ల దిప్పపిర నంజిగళాడద పూగొళంఖళా।
వళిబళ సిల్లదిప్ప పొసనూవిని వాతుగళాడదిప్పపి।
గ్లిళియళిరాజిరాజిస దతావరిపూగుడి మూడితోరది।
ప్పిశిలతేమిల్లితల్ల చిలరిల్లినే తద్వనమేంమనోజ్ఞమో.

(c) తరునంతానమదొప్పిరన్న తట దోళ్నీరాట కేంచి
ద్దుసా।
ర్తిరిదివ్యద్విపమింబుగొండు జళమంరంధాదిగళ్పీవిసు।
త్తిరిశూర్పిందవగాహిసు త్తనిమిష వ్రాతంతరంతోరిని।
జ్ఞరగంగానది తానిదెంబతిర దింతావేరిరగ్గోప్పుగం.

(d) పరిగత కృష్ణవేణియు రరీతృతపుష్కరిసింధురాగబం।
ధురిధృతతుంగభద్రి జితధానుజితోమతిధూతపాసిభా।
సురతరతోర పావనే నతాఘలతాసి సమస్తదేవతా।
వరగౌర వేరరన్యే తేళిగొండళనేక నదీవిశాళమం.

(e) ధరణితళదంతే నవఖండమయమాగేయమ।
పురదంతే బహు నరరపాలమయమాగిసా।
గరదంతే మరి జీవనభంగమయమాగినంసార చక్రదంతే॥

భరిత పాతరభంగ మయమూగి క్ష్వేలాన ।
గిరియంతే శివగణవిలాన మయమూగేవి ।
స్తరదన్నేమిళ దంతే ప్రావృతవిరక్త మయమూగేరణ మిస
దిదుఁదు.

(f) మత్తమూవనం వనధియంతే వల్లకియంతే వరప్రవాళ
మండితముం
సుత్రామనంతే సుజననంతే సుమనో మనోజ్ఞముం ।
కమలదంతే కళకుంసనంతే కమలాకరాభిరామముం ।
నీరదదంతే నిషంగదంతే నిబిడశిఖిముఖముం ।
రాజ చిత్తదంతే రమణీహృదయదంతే రసాల సముదం
చితముం ।
విరహియంతే విధివాహనదంతే విరళధ్వని విళసితముం ।
బగియంతే బానంతే బహుల కారారాజితముం ।
సగ్గదంతే సమరదంతే సంరంభాన్వితము మినిసిదుఁదు.
ఇవుగళ అర్థవన్ను బరియిరి. (a), (b), (d) ఇవుగళల్లి
ప్రయోగిసల్పట్టిరువ అలంకారగళన్ను అక్షణాసహిత
వివరిసువదు (a), (c), (e) ఇవుగళ వృత్తవన్ను నిశ్చ
యిసి ఆ వృత్తగళ లక్షణవంబరియిరి.

III. అగధర, మురహర, సుపర్ణధ్వజం, వనజనాభం, అగ
జారమణ సవ్యసాచి, భీభత్సు. ఇవుగళ వ్యుత్పత్తి
యంబరియిరి.

IV ఇంతోవఁరోవఁగేఁసోఁఅదిసుపణఁ హనుమంత
రకదనదంతే ధరియోఁశ్వోణదుఁ.
ఖాండనదహనదందు కన్నమేల మరపతిముళిదు కదనకే
బళ్వలు.
భాగవం కొందుదిల్ల వికాయను.

శివనందు పాశుపత బాణమంకోట్టుదిల్లవే.

జనపకేళ్ళాన్నువియ శాపదింబళిర పార్థన సర్కమిళ దాగిబరే.

ఇవుగళింద సూచిసల్పట్ట పూర్వ కథెగళన్ను సంక్షేపవాగి బరియిరి.

V. "దధీచి శిబిగళ మాళ్కిమోడియాదుదే.'

"అన్య కోళ్కొంబ కజ్జదమాళ్కి వినయదింది సగిదొడి నలిసుగుణమాదపుదు."

"తమ్మవనరక్కి బహుదాదన్యర వేళిగిత్తొడి తిరుగి బందపుదే."

ఇవు యావ సందర్భదల్లి యారు హేళిద మాతుగళు? సప్తపాతకాళంగళ్యావవు. నిష్కృతిగళిల్ల దేవుపాపంగళ్యావవు.

VI. రాక్షస ముద్రికాగ్రంథద కథెయన్ను సంక్షేపవాగి బరియిరి. క్షుద్రా మంజూషవెంబ హెసరు ఈ గ్రంథక్కి బరువదక్కి కారణ.

చాణిక్యన రాజనీతియన్ను వివరిసిరి. ఇవనూ రాక్షసనూ తమ్మతమ్మ రాజకార్యగళం నేరవేరిసలు ఉపయోగిసిద సాధనెగళం హేళిసిరి. చందనదాస బాగురాయణర వృత్తాంతమం సంగ్రహవాగి బరియిరి.

VII. "జాతియల్లి ఏకవచన ఇద్దరూ, బహువచనవ హేళువదు: ఇదు కారణ క్రియాపద బహువచన హొందలాగువదు; జాతియల్లదల్లియూ బహువచనక్కి ఏకవచనవు విశేషణవాగి నింతరూ బహువచనవన్ను హేళువదు."

ఈ వ్యాకరణవిధియన్ను ఉదాహరణోపసహిత వివరిసిరి.

తిక్కుంపదాంత్యలోపం తిక్కంతిరి కర్మధారయ
క్కంద్విగుణం।

మిక్కాద్వంద్వక్కం మీఱక్కరిగరి నాక్రియా సనూ
పోపీలం॥

ఇదరర్థవంబ రేదు ఉదాహరణోపగళం కొడిరి.

యుగళార్థదల్లి వర్తిసువ బహువచనక్కూ ఆవిష్ట
లింగక్కూ క్రియావిశేషణక్కూ ఏకవచన ప్రాప్తి
సువదు. ఇదం ఉదాహరణోపగళ సహితవివరిసిరి.

గరగసం, కురణం, ఆగసం, బీసగే, సత్తిగే, తిదిగే
ఇవుగళ తత్సమవన్ను, దీపికే, ద్వితీయే, ద్యూతం,
సంధ్యే, శృంఖలం, విజ్ఞాపనం ఇవుగళ తద్భవగళన్ను
బరియిరి.

VIII. వాటి, నేగళు, శాలి, ఖరజంబు, ఘంటాపథం,
అధ్వగం, అదస్రం, మనసిజ, కుట్మళ, ఎళేనసే,
ఘనూంబు, బిది, శిలీముఖ, మరుళ్గళు.

ఇవుగళ అర్థవన్ను సాధ్యవాదల్లి వ్యుత్పత్తియన్ను
బరియువదు.

WEDNESDAY, 23RD JANUARY, 12 NOON TO 2 P.M.

KANARESE: TRANSLATION.

I. Translate into Kanarese—[See Urdu Translation paper, p. clxxviii]

II. Translate into English—

(1) స్వామీ, నీవు, అట్టాహీళిదరూ నిమగింతలూ రాక్ష
సనే బుద్ధిశాలి.ఎందు కోరుత్తిలిద్దే, ఎనలు;
ఎల్లే, అరసే, రాక్షసను బుద్ధిశాలి ఎందు హేళిదుద

రింద నావు బుద్ధిహీనరేందు హీళిదంతాయితు;
ప్రజ్ఞావంతనాగి ఇవ మాడిద్దేను ? ఎనలు;

స్వామీ, రాక్షసను ఈ పురదల్లి నింతు, నమ్మిల్లరం
అక్షీణరిసదే, తానే తానాగియుద్ధవం మాడుత్తే,
నమ్మింద మాడువ సేనా జయఘోషకాలద
ల్లియూ పర్యవసానవాగువ యుద్ధారంభ కాలద
ల్లియూ నమగే తన్న నీతి శాత్యాతిశయదింద హింది
ముంది తోరదంతే మాడి, లిట్టిదను; గుణక్కే
మత్సర లుంటే ? కార్య దక్షరల్లియే హొరతు
నమగే అన్యరల్లి స్వజనాభిమాన లుంటాగదు,
ఎనలు;

ఎల్వై, వృషళనే, రాక్షసను మాడిద్దు ఇష్టుమాత్రవే
సరియల్లే ? నినగే శత్రుగళాద నందరన్ను మూలో
త్పాటనవం మాడి, ఈ మహా రాజ్యాధిపత్యదల్లి
నావు నిన్నంనిల్లిసిదంతే ఆతను నిన్నం నిరాకరిసి
తాను వహిసిద మలయకేతువిగే ఈ రాష్ట్రాధి
పత్యవన్ను లుంటుమాడిదనో ? ఎనలు;

ఏనో ! అదృష్టదింద ఈ రాజ్యవు అభవాయితేందు
తిళియదే, నన్నం బహువాగి తిరస్కరిసువిరి, ఎనలు.

(2) తాయ మాతం కేట్టు శోకతలుషితనాగి
ప్రియదిం శోకి కండడే తనుజనల్లేందు
నోయ నుడిదాకువం బేకేందొడీతనం కొందినాం
పంధమేందు
దాయ తప్పిద బళిక పీళ్దొడీనతుదిన్ను
హీయమాదుదు తన్న బాళ్కే పితృవధియోళీ

కాయమం బిడువినీగళి నోళ్పుదిందవం కేజ్జనొగల
నువాదను.

(3) క్షితివధు కౌర్దలం కృతియిదింపినిపుదు పౌరవస్తుసం
గతి మణి కమ్యన్ సంకుతి సురేంద్ర పురాకృతి తోరనేత్రని
వృతి కర రాజపద్ధతి నదాశ్రిత సంతతి దత్తనిజ్ఞర
స్థితి సుతి విత్త ధమ్మవతి యెంబ పురం విలసత్ప్రభావదిం.

(4) లిసు ఘోరం దివదొళ్కా-
ణదు నిశ్చయమంతే దుర్జనం కాణంకా
వ్యదొళతి రసమనసూయా
నదనం సుఖదూరనవన మాత్రేతదరొళ్.

(5) జవదిం గమిపుదనేన్నొ
త్తవి కత్తంపవననవననిం నొంగుసుమిం
దవధరిసి రజ్జదంతిరె
నవాశ్వమాస్యద ఖలీనదిం * రగ్గొళిసుం

(6) రాకా శశాంకన భ్యుదయమం కేడిసిరం
నాకారమం తోరిసువినెంబ రత్తతియొ
లా రమల తోజనన భార్యనం కొలిసి కొబాళ్వినెం
బుజ్జుగదొళు
ఆ కుమతియన మంత్రి బళికొందు తోఖనమ
నేకాంతదొళ్బళికి మీణదకే ముద్రియం
జోకయిందళవడిసి రకిసి శశిఖాసనం నోడి నగు
తింతెందను.

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* ఖలీన = the bit of a bridle.

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 12 NOON.

MALAYALAM: TEXT-BOOKS AND GRAMMAR.

I. സുന്ദരകാണ്ഡം; ഉദ്യോഗം; ൦രം പേരുകൾ പറവാൻ കാരണമെന്ത.

ദക്ഷയാഗം കഥകളി ഉണ്ടാക്കിയ കവിയെകുറിച്ച അറിയുന്നേടത്തോളം എഴുതുക.

II. സീതാ ഹനുമാനോട പറഞ്ഞ അടയാളവാക്യം എന്ത.

സുന്ദരകാണ്ഡത്തിൽ രണ്ടുപേർ സ്വപ്നം കണ്ടതായി പറയുന്നുണ്ട. ഇവർ ആരെന്നും സ്വപ്നം എന്തെന്നും പറക.

III. തിരോഹതെദ്രാഗ ... എന്ന ശ്ലോകത്തിലെ പദങ്ങളെ ഛേദിച്ച ശ്ലോകത്തിന്ന രണ്ടർത്ഥങ്ങൾ ഉളളത രണ്ടും നല്ല മലയാളത്തിൽ എഴുതുക. ൦രം ശ്ലോകത്തിന്റെ വൃത്തം എന്ത.

IV. മേൽപറഞ്ഞ ശ്ലോകത്തിലെ അലങ്കാരം എന്തെന്നും, അതിന്റെ ലക്ഷണങ്ങളും പറക. (൦രം ശ്ലോകം തന്നെ ഉദാഹരണമാക്കി എടുത്ത പറയേണ്ടതാണ.)

V. താഴെ വരുന്നവയുടെ അർത്ഥത്തെ വിവരിക്ക.

(a) സച്ചിന്മയം, സത്യബോധം, സനാതനം.

(b) വിധിതന്നനിധിയാമീനന്ദിനീമേലിൽ
വിവിധകാമങ്ങൾതരുവാൻനന്ദിനീ

വിധിവിലാസംനമുക്കുനന്നിനി
യിവൾ, വിധുമുഖിസവ്വലോകാനന്ദിനി.

(c) ഒന്നുകൊണ്ടുറിയേണം രണ്ടിൻെറബലാ
ബലം, പിന്നെ മൂന്നിനെ നാലാൽ വശ
ത്തുവരുത്തേണം, അഞ്ചിനെ ജയിച്ചു
ള്ളി ലാറിനെയറിഞ്ഞിട്ടു വഞ്ചനാദിക
ളെല്ലാം വെടിഞ്ഞുവഴിപോലെ ഏഴി
നെയുപേക്ഷിച്ചു സൌഖ്യത്തെ ലഭി
ക്കേണം.

(d) ക്ഷേത്രജ്ഞൻ തന്നാലധിഷ്ഠിതമായിരിക്കു
മിക്ഷേത്രത്തെ നവദ്വാരം പഞ്ചസാ
ക്ഷികമെന്നു, ത്രിസ്ഥൂണമെന്നു മറിയു
ന്നവൻ മഹാവിദ്വാൻ.

VI (a) സഗരനരപതി തനയരെന്നെ വളൎക്ക
യാൽ സാഗരമെന്നു ചൊല്ലുന്നു.

(b) അന്തകൻെറ ചിത്താഹന്ത കളഞ്ഞതു.

(c) ദന്തിവരാസുരകന്ദനംചെയ്യുതും ചിന്തി
ച്ചു കാണ്കിൽ.

മേൽപറഞ്ഞ വാചകങ്ങളിൽ സൂചിത
ങ്ങളായ കഥകളെ ചുരുക്കി പറക.

VII. (1) മതി, വിധി, കാമംവിവരം, ഒരംവാക്കുകൾ
ക്കു പല അൎത്ഥങ്ങൾ ഉള്ളതും.

(2) അഹം, പ്രത്യഹം, ആരാൽ ആരാൽ ചി
രാൽ, ചെന്നാൽ, വെഗാൽ, സഹ

സാ, മനസാ, സുരസാ ഇവയുടെ വിഭക്തിയും.

(3) ഹൃതദ്രവ്യൻ, പരദ്രവ്യം, പന്നഗരാപു, പന്നഗധ്വജൻ, ഇവയുടെ സമാസങ്ങളും പറക.

VIII. രണ്ടുജാതികൾ പരപ്രത്യയകാരികളായുണ്ടവ രണ്ടും പറക.

രണ്ടുപേരുണ്ടല്ലൊ സ്വർഗ്ഗത്തിന്നും മിതെ അവരണ്ടും എഴുതുക.

മൂന്നുപേര ധർമ്മന്മാരായിരിക്കുന്ന ആർ.

നാലുണ്ടു രാജാവിനാൽ ത്യാജ്യങ്ങൾ ഇവനാലും പറക.

IX. സഞ്ജയൻെറ ദൂതിനെക്കുറിച്ചറിയുന്നതും അതിന്നു യുധിഷ്ഠിരൻ പറഞ്ഞ ആക്ഷേപങ്ങളും നല്ല മലയാളത്തിൽ എഴുതുക.

WEDNESDAY, 23RD JANUARY, 12 NOON TO 2 P.M.

MALAYALAM: TRANSLATION.

I. Translate into Malayalam—[See Urdu Translation paper, p. clxxviii.]

II. Translate into English—

(a) ശ്രുത്വാപിതുശ്ശ്രുതിവിരോധിവചസ്തദാസാ
ഗത്വാസതിരജതഭൂമി ധരംജവേന
നത്വാ ഹ്രിയാഹൃദിഭിയാപിരുഷാഗ്രുചാച
സ്ഥിത്വാപുരഃപുരഹരംഗിരമിത്യുവാച.

തിംകൾമെയ്യലെകൈംക്കമെവാചംദേവദൈവമെ
എങ്കൽഉള്ളൊരപരാധംഎല്ലാംനീതാൻസഹിക്ക
ണം, മാനനീയംതവവാക്യംമാനിയാതെപോയമൂലം
മാനഭംഗംവന്നിവണ്ണംമാമകവല്ലഭശംഭൊ
ഹന്തതാതനെന്റെമാനഹാനിചെയ്യുതിനില്ലാത്തി
നിന്തിരുവടിയെകൂടെനിന്ദിപ്പതുസഹിയാഞ്ഞാൻ
താമസശീലനാകുംദക്ഷനെകൊല്ലുവാനെന്തും
താമസിച്ചീടൊല്ലാമമതാതനവനല്ലിനിമേൽ.

(b) (1) വാസരത്തിംകൽപ്രവൃത്തിക്കിലെരാത്രൌപി
ന്നെ, വാസംചെയ്യിടാവിതുസുഖമായെന്നുനൂനം
എട്ടുമാസവുംപ്രവൃത്തിക്കിലെപുനരതി
വൃഷ്ടിമാസങ്ങൾനാലുംസുഖമായിവസിക്കാവു
യൊവ്വനത്തിംകൽപ്രവൃത്തിച്ചൽമാജ്ജിക്കിലെ
ചൊവ്വൊടെവാൽകൃത്തിൽസുഖമായിവസിക്കാവു.

(2) വൃദ്ധന്മാരില്ലാതൊരുസഭയുംസഭയല്ലാ.

(3) അടവിമഴകൊണ്ടുവെട്ടിയാലകച്ചീടീം
കനിനവാചാവെട്ടിമുറിച്ചാലകച്ചീടാ

(c) പിന്നത്തതിൽ മാൎഗ്ഗത്തിൽ കാലത്തുംവയിട്ടും ഓ
രൊസ്ഥലങ്ങളിൽ ഇറങ്ങി താമസിച്ച ശ്രമപരി
ഹാരംചെയ്തുംകൊണ്ടുപോയ്ക്കൊണ്ടിരികുംപോൾ
ഒരു ദിവസം കാലത്തു ഒരു മലയുടെ സന്ധി
യിൽ ഇറങ്ങികൂടുമ്പൊൾ അവരവൎക്കനിയമിച്ച
രിക്കുന്ന വ്യവസ്ഥപ്രകാരം അവരവൎതങ്ങൾതത
ങ്ങളുടെ താഴെഉള്ള സൈന്യങ്ങളോടു ഓരോ ദി
ക്കിൽകൂടാരം അടിച്ചുപൎക്കയുംചെയ്തു. മദ്ധ്യ ഭാഗ

ത്തിംകൽരാജാവും ഭാൎയ്യയും തങ്ങൾ തങ്ങളുടെ കൂടാരത്തിൽ വസിച്ചും കൊണ്ടിരുന്നു. പകൽ മുന്നയാമമയി. അപ്പോൾ രാജാവ സേവഷയായിട്ട ഭാൎയ്യയുടെ കൂടാരത്തിൽ വന്നനോകുംമ്പൊൾ അവിടെ ഭാൎയ്യ സവാരി ശ്രമംകൊണ്ട ശ്രാന്തയായിട്ട സ്വൎണ്ണമയമായ മഞ്ചകത്തിൽ നിദ്രസ്ഥയായിരിക്കുന്നു.

(d) (1) ശോകമെന്നതു വരുന്നേരത്ത കൂട്ടത്തോടെ.

(2) താൻപാതി ദൈവംപാതി

(3) ഇരിക്കുംമുമ്പെ കാൽനീട്ടൊല്ലാ

(4) ഏറെ കിഴകൊട്ടപോയാൽ പടിഞ്ഞാറ.

(5) പാലം കടക്കുന്നവരെ നാരായണ
പാലം കടന്നാൽ കൂരായണ.

(6) ഒരു ഏററത്തിന്ന ഒരു ഇറക്കം.

(7) കുരക്കുംപട്ടി കടിക്കില്ലാ.

(8) ദാനംകിട്ടിയ പശുവിന്റെ വായിലെ പല്ലു നോക്കരുത.

(9) പുത്തൻപെണ്ണ പുരപ്പുറം അടിക്കും.

(10) യഥാരാജാ തഥാപ്രജാ.

(11) മുററത്തുള്ളക്കുമണമില്ലാ.

(12) മിന്നുന്നത എല്ലാം പൊന്നല്ലഭൊഷരെ.

N. B.—ംരം പഴഞ്ചൊല്ലുകൾക്ക ശരിയായ ഇംഗ്ലീഷ പഴഞ്ചൊല്ലുകൾ അറിയാമെങ്കിൽ അതുകൾ തന്നെ എഴുതുന്നത നല്ലത. ശരിയായതുമ്പ എഴുതിയാലും മതി.

WEDNESDAY, 23RD JANUARY, 3 TO 5 P.M.

ORIGINAL COMPOSITION IN VERNACULAR LANGUAGE.

Write an Essay on—

Experience is the test of Truth.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

PURE MATHEMATICS.

I. (*a*) If $x\sqrt{1-y^2}+y\sqrt{1-x^2}=a(x^2-y^2)$ and $xy-\sqrt{(1-x^2)(1-y^2)}=b(x^2+y^2-1)$, show that $\frac{1}{a^2}+\frac{1}{b^2}=1$.

(*b*) Solve for x and y the simultaneous equations.

$$(1+m^2)(x+y)=2m(1+xy).$$
$$(1+n^2)(x-y)=2n(1-xy).$$

II. Assuming the Binomial Theorem for a positive index, integral or fractional, prove it for a negative index.

Show that the coefficient of x^n in the expansion of $\frac{1}{(1-x)(1-2x)(1-3x)}$ is $\frac{1}{2}\left(3^{n+2}-2^{n+3}+1\right)$.

III. Given two sides of a triangle and the included angle. Find a formula for determining the value of the third side, in a form adapted to logarithmic computation.

Two sides of a triangle are in the ratio of 1 to $\sqrt{2}$, and the included angle is 135°. Show that the third side is inclined at an angle of 45° to the line joining its middle point with the middle point of the perpendicular on it from the opposite angle.

IV. Find a formula for the radius of the inscribed circle of a triangle in terms of one side and the trigonometrical functions of the angles.

ABC is a triangle inscribed in a circle. The arcs BC, CA, AB are bisected in D, E, F respectively. If R and r_1 be the radii of the circles described about and inscribed in the triangle DEF, show that

$$\frac{R+r_1}{R}=\sin\frac{A}{2}+\sin\frac{B}{2}+\sin\frac{C}{2}.$$

V. Inscribe a triangle in a circle equiangular to a given triangle.

ABC is a triangle inscribed in a circle whose centre is O. AO, BO and CO are produced to meet the circle again in D, E, F respectively. Show that the sum of the triangles, DBC, EAC and FAB is equal to the triangle ABC.

VI. If a quadrilateral be inscribed in a circle, the rectangle contained by its diagonals is equal to the sum of the rectangles contained by its sides.

ABCD is a square inscribed in a circle In the arc AB a point P is taken, and PA, PB, PC, PD are joined. In PC a point E is taken such that PA PE, and in PD a point F is taken so that PB = PF. Show that AE = DF and BF = EC.

VII. Draw a pair of tangents to a parabola from a given external point. A' parabola touches one side of a given triangle at its vertex and the other sides produced. Find the points of contact.

VIII. In the ellipse the semi axis minor is a mean proportional to the focal distances of a tangent.

Given the centre, a tangent and the lengths of the axes of an ellipse, find the foci.

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

STATICS AND DYNAMICS.

I. Assuming the truth of the theorem of the parallelogram of forces for the direction of the resultant, prove it for the magnitude of the resultant.

II. Investigate the conditions of equilibrium of a rigid body acted on by forces in one plane.

AB, AC are two uniform rods of the same material and thickness and of lengths $2a$ and $2b$ respectively. The ends of a string of length $\sqrt{a^2 + b^2}$ are tied to the middle points of the rods which are placed in a vertical plane with their ends B and C in contact with a horizontal plane. If in the position of equilibrium the string be stretched, show that the tension of the string is to the sum of the weights of the rods as ab to $a^2 + b^2$.

III. State the laws of friction determined experimentally.

Two equal weights (P, P) made of the same material are placed on two rough planes, inclined to the horizon at angles α and β respectively and are connected together by a string passing over a smooth pully at the common vertex of the planes. If the weight on the plane (α) be on the point of slipping down it, show that it can be diminished by any quantity not exceeding $2P \operatorname{Sin}(\alpha - \beta) \operatorname{Cos}\frac{\alpha+\beta}{2} \operatorname{Cosec}.\frac{3\alpha-\beta}{2}$ without disturbing equilibrium, the coefficient of friction for both the planes being the same.

IV. The distances of a number of heavy particles in one plane from two straight lines at right angles to each other in that plane being given, find the distances of their centre of gravity from the same straight lines.

Show that the centre of gravity of three equal weights placed at the vertices of equilateral triangles described on the sides of a right angled triangle outwards, coincides with the centre of gravity of the right angled triangle

V. Find the relation between the power and the weight in the first system of pullies *i.e.*, that in which the string which passes round each pully has one end fixed and the other end attached to the pully next above it.

If in this system of pullies the weights of the pullies are equal, and if the number and weight of the pullies in the lower block of the second system are the same as in the first system of pullies, find the limiting value of W so that the mechanical advantage may lie with the first system.

VI. Weights P and Q ($P > Q$) are attached to the ends of a fine string passing over a smooth pully and hang vertically. At the initial instant of motion, the weights are at the distance a from a horizontal plane. After the weights have moved through space $\frac{a}{2}$ the string is cut, and then Q strikes the horizontal plane in twice the time that P does. Show that P is to Q as 121 to 119.

VII. Find the range of a projectile on an inclined plane.

ACB is a vertical section of two inclined planes at right angles to one another, cutting a horizontal plane AB. A body, projected from

A up AC with a certain velocity, after passing through C, strikes the horizontal plane at B. A body projected with the same velocity up BC from B after passing through C strikes AC at its middle point. Show that tan ABC = $\sqrt[4]{2}$.

VIII. When a particle moves on a plane curve under the action of any force, find an expression for the acceleration at any point of its path in the direction of the normal.

Find with what velocity a particle should start from the highest point of a verticle circular arc in order that after describing an angle of 30° it may leave the curve. Find also the latus rectum of the parabola described after leaving the curve.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

HYDROSTATICS AND PNEUMATICS.

I. From the fundamental property of a fluid deduce the law of the equality of pressure at any point in all directions.

II. Show that the pressure at any depth z, in a fluid whose density is ρ, is given by the equation $p = g\rho z$.

Determine the unit of pressure to be used in this equation, the density of water being the unit of density, and a second and a foot being the units of time and space respectively.

III. Obtain a formula for the sum of the normal pressures upon an immersed area.

An ellipse, whose, foci are S and H, is immersed in a liquid so that its major axis is horizontal, and one extremity B of its minor axis is in the surface. Show that the pressure on the circle inscribed in the triangle SBH is to the pressure on the circle circumscribed, as $8e^2 (1 - e)^3 : 1$, where e is the excentricity of the ellipse.

IV. Show how to determine the resultant pressure upon an immersed surface.

A sphere is just immersed in a fluid. Find the direction and magnitude of the resultant pressure upon a hemispherical portion cut off by a vertical plane through the centre.

V. Define what is called the Metacentre, and show how its position affects the equilibrium of a floating body.

VI. Explain the principle of the common hydrometer.

It is found that if a solid, whose weight is w_1, is placed in the upper cup of a Nicholson's Hydrometer, and a piece of the same substance whose weight is w_2, is placed in the lower, the instrument will sink in a liquid of specific gravity s_1, as far as it sinks in another of specific gravity s_2, when the position of the solids is reversed.

Show that the specific gravity of the substance is

$$\frac{s_1\, s_2}{s_1 \backsim s_2} \times \frac{w_1 \backsim w_2}{W + w_1 + w_2}$$

W being the weight of the instrument.

VII. Describe an experiment to show that the pressure of a given quantity of air at a given temperature varies inversely as the space it occupies.

A tight fitting piston of weight W and area K closes a vertical cylinder full of air: find how far it will descend if h be the height of the cylinder; and show that if the temperature of the enclosed air be raised by $\frac{W^0}{K\pi a}$ the piston will ascend to the top of the cylinder, π being the atmospheric pressure, and a the increase of a unit of volume for each additional degree of temperature.

VIII. If two volumes V, V′ of different gases at the pressures p and p′ respectively are mixed together, show how to determine the pressure of the mixture.

A cylindrical diving bell sinks in water till the air occupies $\frac{1}{n}th$ of its volume. Find how much atmospheric air must be pumped into it, that it may sink to a further depth of mh feet, h being the height of the water barometer, without the water rising any higher in the bell.

Determine the pressure at this latter depth.

IX. Describe the Barometer, and show how it is graduated.

If a small quantity of air of known volume be admitted into the upper part of the tube, show how to infer the reading of a correct barometer.

FRIDAY, 25TH JANUARY, 2 TO 5 P.M.

OPTICS AND ASTRONOMY.

I. State the experimental law for refraction of a ray through a plate.

Use it to determine the index of refraction from A to C, it being known that the index of refraction from A to B is $\frac{3}{2}$, and from C to B is $\frac{\sqrt{3}}{2}$. If the angle of incidence from A is $60°$, find the direction of the ray in C.

II. What is meant by the critical angle?

A radiant point is placed half way between the centre of a sphere and its surface. Find the limiting value of the index of refraction that every ray may be refracted.

III. Find the distance from the centre of a sphere of the Geometrical focus of a pencil of rays after refraction at the surface.

Determine this in the case of a pencil of rays refracted through a hollow sphere of glass ($\mu = \frac{3}{2}$) whose internal and external radii are r, and $2r$, from a point at a distance of $3r$ from the centre.

IV. Assuming the formula for the deviation of a ray refracted through a prism, determine when this is a minimum.

Obtain the equation $\text{Sin}\,\frac{D+i}{2} = \mu\,\text{Sin}\,\frac{i}{2}$, and state how it may be used to determine the index of refraction of any medium that can be formed into a prism.

V. Find the focal length of a lens in terms of the radii of its bounding surfaces.

Show that it is positive or negative according as the lens is thinnest or thickest at the centre.

VI. Assign reasons for supposing the earth to be globular.

If h be the height of an observer's eye above the sea level, and r the radius of the earth, show that the distance of the offing is $\sqrt{2hr}$ approximately.

VII. Define the Right Ascension and the Declination of a heavenly body. How are these usually determined.

VIII. What is the cause of aberration? Show that its effect is to make the apparent place of a star describe a small ellipse about its true position in the course of a year.

IX. Account for the inequality of the intervals of time between the Sun's arrival at the meridian, and indicate how it may be calculated for any day in the year.

X. Show that the velocity in its orbit of an inferior planet is greater and of a superior planet less, than that of the earth; and that the apparent motion of any planet when nearest the earth is always retrograde.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

BOTANY.

I. Describe fully the structure of a *cell*, such as occurs in *Spirogyra*; describe also how it increases in size, and how it multiplies. Illustrating, if you can, your description by means of drawings.

II. Under what conditions is *Chlorophyll* formed in a plant, and what purpose does it subserve in the economy of the plant?

III. Describe in technical language the plants marked A and B and refer them to their natural orders.

IV. What are the chief characters upon which you would depend in determining that a plant belonged to *Violaceæ* and not to *Polygalaceæ*?

V What are the more valuable Indian economic products of the natural orders *Anonaceæ*, *Cucurbitaceæ*, *Asclepiadaceæ* and *Lauraceæ*?

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

CHEMICAL PHYSICS.

Only ten questions to be attempted.

I. Distinguish between cohesion and adhesion. As an illustration describe and explain the formation of cohesion figures.

II. Explain what is meant by the terms diffusion and effusion of gases. On what do the velocities of diffusion and effusion of gases depend?

III. Describe and explain the action of Sprengel's air pump.

IV. Describe Wollaston's method of determining the refractive index of a substance by means of the total reflection of light.

V. Describe either Fizeau's or Foucault's method of measuring the velocity of light, and show how this determination can be employed in estimating the diameter of the earth's orbit.

VI. What is meant by the terms unpolarized, partially polarized, and completely polarized light? When a ray of unpolarized light passes through an ordinary rhombohedron of Iceland spar two rays will emerge parallel to the original ray. What are these rays called, and in what states of polarization are they found to be? If the incident ray be polarized, how will the emerging rays be modified; and what will happen if the Iceland spar be rotated in a plane at right angles to the path of the rays?

VII. Distinguish between evaporation and ebullition, giving the conditions necessary for the latter. The height of a mountain may be roughly determined by noting the temperature at which water boils on its summit. State the principles involved in the method.

VIII. Account briefly for the apparent radiation of cold. Give Well's theory of dew.

IX. How does the amount of heat radiating from a plane surface vary with the angle the rays make with the normal to the surface? Describe an experiment for showing this.

X. Define the term Specific Inductive Capacity. Describe Faraday's method of comparing the specific inductive capacities of different substances.

XI. What do you mean by polarization in a voltaic cell. What is its effect on the current when the external resistance is small? Describe some of the means that have been adopted to prevent or reduce it.

XII. Faraday discovered that if the action of an electric current be limited to a single pole of a magnet, a continuous rotation of the pole round the conducting wire may be obtained, or, if the magnet be fixed and the wire moveable, the wire will revolve round the magnet. Describe apparatus by which these rotations may be shown.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

CHEMISTRY.

I. You are required to prepare five litres of nitrous-oxide gas, at a temperature of 20° C, and under a pressure of 758 mm. of mercury :—What weight, in grammes, of ammonium nitrate is required for the purpose ?

II. Describe how pure nitric acid is prepared, and mention the impurities likely to be found in commercial nitric acid.

III. Give the reactions which distinguish nitrites from nitrates, and explain how saltpetre can be purified from common salt.

IV. Name and describe the different systems of crystallization, and mention some substances belonging to each. Explain the terms "dimorphism" and "isomorphism," and give illustrations.

V. Define the term "atomic weight," and give an outline of the different methods by which it is determined.

VI. By what reactions may (1) the metals calcium, strontium, and barium ; and (2) hydrochloric, hydrobromic, and hydriodic acids be distinguished from each other ?

VII. How would you proceed if given some potassium iodide, and asked to convert the potassium therein contained into potassium platinum chloride ?

VIII. Explain what happens when potassium iodide is added to a solution of each of the following salts, *viz.*, (1) mercuric chloride (2) cupric sulphate, (3) ferric chloride ?

IX. Represent by equations, (1) the action of water on the following substances, *viz.* :—Silicon tetrafluoride, phosphorus pentachloride, phosgene gas, nitrogen tetroxide, boron trifluoride ; and (2) the changes which occur when the following substances are heated, *viz.* :—microcosmic salt, ammonium nitrite, potassium bromate, lead dioxide, mercuric cyanide, platinic chloride.

X. Mention the most important compounds of iron occurring in nature, and state which of them are of value as ores of the metal. Give a brief outline of the processes by which the metal is extracted and converted into wrought-iron and steel.

FRIDAY, 25TH JANUARY, 2 TO 5 P.M.*

PRACTICAL CHEMISTRY (QUALITATIVE ANALYSIS)

Each Candidate was required to analyse qualitatively three substances selected from the following list:—

Sulphuric Acid, Nitric Acid, Hydrochloric Acid, Boric Acid, Arsenic Acid, Borax, Hydrogen Disodium Phosphate, Sodium Carbonate, Sodium Sulphate, Sodium Thiosulphate, Potassium Bromide, Potassium Chlorate, Potassium Iodide, Potassium Nitrate, Potassium Sulphate, Ammonium Nitrate, Ammonium Oxalate, Ammonium Phosphate, Ammonium Sulphate, Magnesium Chloride, Magnesium Nitrate, Magnesium Sulphate, Calcium Carbonate, Calcium Chloride, Calcium Phosphate, Strontium Carbonate, Strontium Chloride, Barium Carbonate, Barium Chloride, Barium Nitrate, Nickel Nitrate, Zinc Chloride, Zinc Nitrate, Zinc Oxide, Zinc Sulphate, Zinc Sulphide, Mercuric Chloride, Cupric Chloride, Lead Carbonate, Lead Nitrate.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

DEDUCTIVE LOGIC.

I. Criticise the following definitions of Logic:—
Logic is (*a*) 'the right use of Reason';
(*b*) 'the science of the necessary laws of thought';
(*c*) 'the science of avoiding fallacy'.

II. (*a*) 'It is our son John';
(*b*) 'To-day precedes Friday';
(*c*) 'A is equal to B';
(*d*) 'All X is all Y';
(*e*) 'Not all men are happy';
(*f*) 'A is either B or not C'.

What proposition is (*a*); convert (*b*) and (*c*); contradict (*d*); contraposit (*e*); give the hypothetical equivalents of (*f*).

III. How does Dr. Bain show that the class theory of propositions is 'inadequate and incorrect'?

* The Examination was held on Monday 28th, from 10 a.m. to 1 p.m. and from 2 to 5 p.m.

What is his classification of propositions according to their import? Why does he reject from his classification propositions predicating existence?

IV. Explain—

(a) 'Incomplete definitions, are useful abbreviations, but may be and are continually set aside in the progress of science':

(b) 'The illusive case in the dilemma is when the logician trusts to the law of excluded middle as a guarantee of the disjunction':

(c) Does the 'Dictum' strictly considered apply to all the moods of the First Figure?

(d) Referring to 'Baroko' Dr. Bain says 'that a glance at the premises shews that they are not at bottom what they appear on the surface.'

V. Criticise:—

(a) 'If O is true, A is false; therefore I is false; therefore E is true';

(b) 'If there were but one rational being in the universe, that being might be a perfect logician';

(c) 'The extent of the middle term,' says Dr. Bain, 'relatively to the extent of the major and minor, gives rise to variations' of Figure.

VI. Give one example of each of the following:—

(a) an enthymeme of the third order:

(b) an Aristotelian Sorites with a negative conclusion:

(c) fallacy of Ambiguous Middle:

(d) a legitimate conclusion from two particular premises:

(e) an Epicheirema.

VII. Examine the following:—

(a) If the predicate is not quantified in thought then what, asks Hamilton, is the foundation for conversion per accidens.

(b) 'The axiom of deduction supposes the uniformity of nature'.

(c) 'To represent the relation of terms in a syllogism by that of figures in a diagram is to lose sight of the distinctive mark of a concept—that it cannot be presented.—*Mansel.*

(*d*) 'The prime importance of the syllogism attaches to its standard forms: that is, to the First Figure.'

VIII. Give and criticise the different ways in which the charge of petitio principii brought against the syllogism, has been met; and state and support what appears to you to be the correct theory as regards the function of the syllogism.

Why does Dr. Bain object to the *nota notæ* as the basis of the syllogism?

IX. State and criticise the objections which Dr. Bain urges against syllogisms with singular premises.

Reduce (1) 'Bramantip' to the second figure.

(2) The weakened mood AEO of the second figure to the first.

(3) The following to a syllogistic mood: 'No perfect being can be man; for all men are subject to decay, the unfailing mark of imperfection.'

If the major premise of a syllogism be particular or the minor negative, what must the other premise be?

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

INDUCTIVE LOGIC AND DEFINITION.

1. Dr. Bain endorses the remark of Mill that the uniformity of nature is the ultimate major premise of every inductive inference.

Construct a syllogism of this kind and compare it with the inductive syllogisms of Aristotle and Whately.

As regards this principle of uniformity, explain clearly, what is and what is not meant by it; whether it is or is not consistent with the most unexpected events of which we can form a conception (say, the sudden drying up of the Bay of Bengal to-morrow morning); and what kind of evidence can be adduced in its support.

II. Explain:—

(*a*) 'When Law is applied to any other object than man, it ceases to contain two of its essential ingredient ideas—namely, disobedience and punishment';

(*b*) Aristotle gives the instance of a physician curing himself as containing all his four causes in one subject;

(*c*) 'As cause may not always mean the moving power transferred according to the law of conservation, so the effect may not always mean visible energy gained';

(*d*) 'Though the problem of causation may be presented in both its aspects, the experimental solution is one;'

(*e*) Why do we hear of 'plurality of causes' and not of plurality of effects?

III. Point out the advantages of experiment over observation.

Which is more valuable, a fact of observation or a fact of experiment?

Jevons says that "one of the most requisite precautions in experimentation is to vary only one circumstance at a time." What reasons can you assign for this?

Specify in what departments of enquiry experiment is inapplicable, and why.

What does Mill mean by 'Fallacies of observation'? Give his classification of these fallacies, with one example to illustrate each class.

IV. The experimental methods:—

(*a*) To which of the three distinct classes of uniformities do these methods apply?

(*b*) What are the difficulties incident to the method of Agreement? How do you justify the inclusion of this among the methods, when it is vitiated by so many circumstances?

(*c*) Examine the following objections to the method of difference:—

(1) In $\frac{ABC}{abc}$, $\frac{BC}{bc}$, BC may be indispensable to the production of *a*;

(2) It is impossible to apply this method practically.

(*d*) Which of the methods is affected by the possibility of the presence of unknown antecedents?

(*e*) Jevons says that Mill's principal fault is that instead of employing the methods of induction to ascertain the general law of causation, he put the cart before the horse and used the law of causa-

tion to support the methods? Point out which you consider the more philosophical procedure, and which will be acceptable to the Intuitive School, and why?

What would be Mill's reply to Jevons's remark?

V. What is the function of Deduction in Inductive enquiry?

VI. Examine the following:—

(a) 'Every rule has its exception';

(b) 'The probability of an event to one person is a different thing from the probability of the same event to another or the same person after he has acquired additional evidence.' How then is a science of probability possible?

(c) 'Only really existing causes are to be admitted in explanation of phenomena.'

VII. Give one example of each of the following:—

(a) a crucial instance:

(b) a discovery made by the application of the method of Residues:

(c) an Empirical law afterwards shown to be Derivative

(d) a classification to which the rules of logical Division are inapplicable:

(e) an exception to the rule that 'to define is to generalise':

(f) False analogy:

(g) Illusory explanation.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

THEORY OF MORALS.

1. "A psychological law cannot serve as a rational basis for an ethical system."—A. J. BALFOUR

Examine this statement and point out carefully the relation of Ethics to the science of Mind.

"An ethical proposition," says the same writer, "is one which prescribes an action with reference to an end."

Suppose now that I proceed to discuss the ends of action, is it necessarily implied that I am entering on an ethical discussion, or

may it be psychological? How would you determine whether it is the one or the other?

II. Trace the boundaries between Morality and Law as defined (*a*) by Utilitarians and (*b*) by Intuitionalists. State with reasons your own opinion.

III. Describe the Moral Sense theory.

State and examine the principal arguments with which it has been attacked (*a*) by Intuitionalists and (*b*) by Utilitarians.

How do you explain the hold which it has taken on popular language, and what evidentiary value would you attach to this circumstance?

IV. What is your opinion as to (*a*) the psychological truth and (*b*) the ethical value of the point emphasized by Butler that the particular passions and affections are distinct from self-love?

V. Dr. Bain says that "Morality, *as it has been*, is founded partly on Well-being, or Utility, and partly on Sentiment."

Is the admission of Sentiment as a foundation of Morality in any sense consistent with a thorough-going Utilitarianism? Do you think that Dr. Bain gets over the difficulty by the distinction he draws between Morality as it has been and Morality as it ought to be?

VI. It is frequently urged against the Utilitarian that in setting up Happiness as the end of action he is logically bound to regard every action whatsoever that tends to promote happiness as morally obligatory. Examine this view, bringing out clearly what the Utilitarian stand-point is and should be in this respect.

VII. "The standard of happiness cannot be the standard of morals, because the agreeable, or desirable, does not in itself possess 'binding force' to determine the action of moral beings."—CALDERWOOD.

Examine critically. Assuming the "binding force" to be admitted by all, how think you, is it to be accounted for?

Does the scientific explanation of obligation add anything to its operative efficacy?

VIII. What is the logical method employed by Dr. Bain in attempting to analyse the Moral Faculty? What results does he think he has succeeded in establishing by that method, and in what respect or respects do these results differ from those arrived at by many

other Utilitarians? Do you regard his conclusions as satisfactory? If so, give your reasons. If you are not satisfied with them, point out in what respects you consider them to be defective or erroneous.

IX. In the distribution of happiness, or the means of happiness, among mankind is "everybody to count for one, and nobody for more than one"?

Point out carefully what this rule means, and show how it must be applied, if it can be applied at all

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FRIDAY, 25TH JANUARY, 2 TO 5 P M.

HISTORY OF MORALS.

I. "During the first period of ethical controversy in modern England, after the audacious enunciation of Egoism by Hobbes had roused in real earnest the search for a philosophical basis of morality, *Utilitarianism appears in friendly alliance with Intuitionism.*"—SIDGWICK.

Give as fully as you can the evidence in support of this statement. Discuss the legitimacy of the alliance.

II. Sketch the distinctive features of the British Intellectual School, and trace them to their causes. Who were the chief representatives of that school? What difference do you note in the mode of presentation between the earlier and the later adherents and how do you account for it? What, in your opinion, are the special merits and defects of the Intellectual Theory?

III. When compared with the moralists of the present day, Butler appears to lay inordinate stress on (*a*) the supremacy of Conscience and (*b*) the distinction of Benevolence from Self-love. How do you explain the emphasis laid by him on these points?

IV. Point out the position taken up by Butler with reference to extreme Selfishness on the one hand and extreme Disinterestedness on the other. How does he differ in this respect from many of his school in the eighteenth century?

V. What is the real value of Adam Smith's contribution to the Ethics of the eighteenth century?

In what relation does the sympathetic approval of the impartial spectator stand to the rightness of the action?

VI. With regard to the alleged universality of moral judgments what were the opinions of Intuitionalists and Experientialists as to (*a*) the fact itself, (*b*) its bearing on the innate origin of the moral faculty. What modifications of opinion on the above points respectively took place in each of the schools in consequence, among other circumstances, of that fuller acquaintance with mankind in the lower stages of civilization which resulted from the discoveries of Captain Cook and others?

In your opinion (1) would the disproof of universal moral judgments be inconsistent with Intuitionalism, and (2) would the proof of them be inconsistent with Experientialism?

VII. Describe and explain the leading features of the ethical activity of the French mind in the last century? How were the ethical doctrines related (*a*) to the national Cartesianism, (*b*) British Lockianism and how are these relations to be explained, In so far as they touched on ethical questions what were the points specially dwelt on by Voltaire, Helvetius and Rousseau?

VIII. Was Kant's theory a development of the national ethical philosophy or a new departure? Support your answer by a brief statement of the condition of moral speculation in Germany when Kant began to write.

Explain and criticise the manner in which Kant attempts to safeguard human freedom while leaving man subject to inexorable moral law.

In what relation does the first formula of the categorical imperative stand to British Utilitarianism, and the second formula to the contemporary practical philosophy of France?

SATURDAY, 26TH JANUARY, 10 A.M. TO 1 P. M.

MENTAL PHILOSOPHY.

I. It has been objected that the physiological portions of Bain's Psychology are "altogether foreign and intrusive," whereas Bain seems to regard them as an important auxiliary to the ordinary psychological method. Discuss this point, and illustrate Bain's position by pointing out the psychological use he makes of the following: (1) Sir Charles Bell's discovery of the two kinds of nerves; (2) the fact that each nerve supplied to the skin keeps an independent course throughout.

II. Explain (1) how the non-ego, in its three attributes of *externality, occupied* and *unoccupied extension*, is originally perceived; (2) on what grounds it is held that these perceptions are not native to the eye, and how they are supposed to be acquired; (3) what modification of this view is introduced by the theory of Evolution.

III. Examine whether the theory of pleasure and pain formulated by the law of self-conservation explains the following facts:—

(*a*) That the expression of grief is as well marked as that of joy; (*b*) that repose after fatigue is pleasurable; (*c*) that some pains are invigorating and some pleasures enervating.

IV. In his preface to the *Senses and Intellect*, Bain avows his abandonment of the method of the faculties and his adoption of the associational method instead. Explain this, and illustrate by showing how this method resolves the (so-called) faculties of Volition, Localization of Sensation, and Imagination into simpler elements.

V. (*a*) Give a physiological explanation of the statement that impressions are accumulated as recoverable effects in the organism, and of the limits of such accumulation.

(*b*) With regard to the mental agency by which they are recovered, *viz.*, association, explain (1) The distinction made by some psychologists between its primary laws and the secondary laws or modifying circumstances; (2) How the laws of Contiguity and Similarity mutually involve each other; (3) How Volition might co-operate with Association in enabling a candidate to answer his question paper.

VI. With regard to the Emotions point out (*a*) In what various ways they originate; (*b*) On what various principles they have been classified; (*c*) The points kept in view by Bain in describing the separate emotions (taking the Irascible emotion as your example; and (*d*) How the law of the expression of emotion as stated by Bain is supplemented by Darwin or Spencer.

VII. The philosophy of Locke is credited with being the starting point of the philosophies of Berkeley, Hume, and Condillac. Examine what elements there were in the Lockian philosophy that enabled it to lend itself to these different developments.

VIII. On what grounds does Comte omit Psychology in his enumeration of the Sciences, and on what grounds does Mill protest

against this procedure? Distinguish between the *earlier* and the *later* Comtism.

IX. Starting from the ultimate results of Mill's analysis, point out the precise difficulty that emerges when we try to account experimentally for the following beliefs:—(*a*) That at each moment my mind is something more than my present conscious state; (*b*) That there are other minds like my own and that I am acquainted with some of them; (*c*) That the material world existed before there was any mind or sentiency.

X. What is the answer, and on what grounds precisely is it given, of Spencer, Mill and Hamilton respectively, to each of the two questions:—(1) Is there a God? (2) Is it competent for us to feature Him?

SATURDAY, 26TH JANUARY, 2 TO 5 P.M.

HISTORY OF ENGLAND.

I. What place did the clergy hold under the Anglo-Saxon Constitution? What important changes did William the Conqueror introduce with reference to the relationship between the Church and the State? What effects followed from this in the four following reigns?

II. On what grounds did Edward I. lay claim to the overlordship of Scotland? Give your opinion as to the validity of his claim. Narrate the chief incidents in the wars that followed.

III. (*a*) Show that after the wars of the Roses the power of the Crown became greatly augmented, and account for this.

(*b*) What were the immediate causes that led to the Civil War in the reign of Charles I?

IV. (*a*) Who were the parties to the following alliances and for what object was each formed?—The Triple alliance (1668). The Grand alliance. The Quadruple alliance.

(*b*) Mention the scope of the following measures and the reign in which each was passed:—(1) Statute of

Praemunire. (2) The Act of Settlement. (3) The Test Act. (4) Repeal of the Corn Laws.

V. Write a brief history of Parliamentary Reform since 1782.

THE REIGN OF EDWARD III.

VI. Draw a genealogical table of the family of Philip IV. of France, and point out the grounds on which Edward III. claimed the French Crown. What steps were taken to determine the validity of this claim? If it was ever good it was invalidated in two ways before the beginning of the French War. How?

VII. (*a*) Why was Edward especially anxious to gain possession of the town of Calais?

(*b*) What was the *intention*, and what the *effect* of fixing the staple of English exports at Calais? At what date was the staple removed?

(*c*) Specify the chief attempts at a legislative regulation of domestic trade made during Edward's reign.

VIII. (*a*) Describe the usual method of legislation in England during the 14th century.

(*b*) Give the terms of the four great enactments of the Parliament of 1352, and point out the importance of each.

(*c*) What indications have we during Edward's reign of the growth of a middle class in England?

IX. Speaking of the campaign of the Black Prince in Spain, Warburton remarks that "to its secondary consequences is distinctly traceable the loss of all that England had gained in France by the Battle of Poitiers." Trace clearly the links which connect this campaign with the subsequent out-break of hostilities between England and France.

X. (*a*) Who were the following and what part did each play in the wars of the period?—Cardinal Perigord, Sir R. Knolles, Arnold de Cervolle, Duguesclin, Jeanne de Penthièvre and Marcel.

(*b*) Give a short account of the battles of Halidon Hill and Sluys, remarking on their importance.

XI. Describe the condition of France after the battle of Poitiers. What was the *Jacquerie* and how was it at last put down?

M. A. DEGREE EXAMINATION, 1884.

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

ALGEBRA AND TRIGONOMETRY.

I. If $\phi(x)$ be positive for all positive integral values of x, and continually diminish as x increases, and h be any positive integer, the two infinite series $\phi(1) + \phi(2) + \phi(3) + \ldots\ldots$ and $\phi(1) + h\phi(h) + h^2\phi(h^2) + \ldots\ldots$ are both convergent or both divergent.

If p be greater than unity, the series of which the general term is $\dfrac{1}{n \log. n \left[\log. \overline{(\log. n)}\right]^p}$ is convergent.

II. Any convergent is nearer to the continued fraction than any other fraction which has a smaller denominator than the convergent has.

If $\dfrac{p_n}{q_n}$ be the nth convergent to $\dfrac{1}{1+}\,\dfrac{2}{2+}\,\dfrac{3}{3+}\ldots\ldots$, prove that $p_n + q_n = \underline{|n+1}$.

Find a continued fraction equal to the series

$$1 + \frac{2}{3} + \frac{2^2}{5} + \frac{2^3}{7} + \ldots\ldots + \frac{2^n}{2n+1}.$$

III. If $f(m)$ denote the number of positive integers less than m and prime to m, and a, b, c are all prime to each other, then will $f(abc) = f(a) \times f(b) \times f(c)$.

If $N = a^p b^q$, a and b being prime numbers, shew that the sum of all the positive integers less than N and prime to N is $\dfrac{N^2}{2}\left(1-\dfrac{1}{a}\right)\left(1-\dfrac{1}{b}\right)$, and the sum of their squares $\left(\dfrac{N^3}{3} + \dfrac{Nab}{6}\right)\left(1-\dfrac{1}{a}\right)\left(1-\dfrac{1}{b}\right)$.

IV. If any group consisting of an odd number of terms is deficient in any equation, show what may be inferred as to the number of imaginary roots of the equation. What can you infer by inspec-

tion as to the number of imaginary roots of $x^{11} - 8x^4 + 3x^4 + 1 = 0$, and $x^{8n+2} - x^{6n} + x^{4n+1} - x^{2n} - 1 = 0$.

V. If n is a prime number and a any root of the equation x $x^n - 1 = 0$ except unity, then all the roots of the equation will be furnished by the series, $a, a^2, a^3 \ldots\ldots a^n$. Shew also that if n be not a prime number, this property belongs to *some* of the roots of the equation $x^n - 1 = 0$.

VI. Find the sum of the mth powers of the roots of the equation $x^n - 1 = 0$.

If the sum of the rth powers of the roots of the equation $x^{11} + x^{10} + 1 = 0$ be represented by S_r, show that $S_{10} - S_{11} = 13$.

VII. Shew how to find the n different values of $(\text{Cos}\,\theta + \sqrt{-1}\,\text{Sin}\,\theta)^{\frac{m}{n}}$, m and n being positive integers. Hence deduce the four fourths roots of -1.

VIII. Find exponential values of Sin θ and Cos θ. Given $\tan(\phi + \theta)\,\text{Cos}\,2a = \tan\phi$, prove that $\theta = \tan^2 \text{Sin}\,2\phi + \frac{1}{2}\tan^4 a\,\text{Sin}\,4\phi + \frac{1}{3}\tan^6 a\,\text{Sin}\,6\phi + \&c.$

IX. Given the value of $a_0 + a_1 x + a_2 x^2 + \ldots\ldots + a_n x^n$ where $a_0, a_1, a_2 \ldots a_n$ are independent of x, required the value of $a_0\,\text{Cos}\,\theta + a_1\,\text{Cos}\,(\theta + \phi) + a_2\,\text{Cos}\,(\theta + 2\phi) + \ldots\ldots\ldots + a_n\,\text{Cos}\,(\theta + n\phi)$.

Apply the result to obtain the value of

$$\text{Cos}\,a + n\,\text{Cos}\,2a + \frac{n\,(n-1)}{1\,.\,2}\,\text{Cos}\,3a + \&c. + \text{Cos}\,(n+1)\,a$$

X. In a spherical triangle, prove that $\text{Cos}\,\frac{1}{2}c\,(A + B)\,\text{Cos}\,\frac{1}{2}c = \text{Cos}\,\frac{1}{2}(a + b)\,\text{Sin}\,\frac{1}{2}C$.

Find the angular radius of the small circle inscribed in a spherical triangle in terms of the angles.

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

PLANE AND SOLID GEOMETRY.

I. The area of the triangle formed by the lines

$$ax^2 + 2hxy + by^2 = 0,\ lx + my + n = 0 \text{ is } \frac{n^2\sqrt{(h^2 - ab)}}{am^2 - 2hlm + bl^2}.$$

II. Given the polar co-ordinates of the centre of a circle, and its radius, find its polar equation.

The polar equation to the circle on the line joining (a, α), (b, β) as diameter is

$$r^2 - r\,[a \cos(\theta - \alpha) + b \cos(\theta - \beta)] + ab \cos(\alpha - \beta) = 0.$$

III. Define the eccentric angle of a point on an ellipse, and find the equation to the normal at the point whose eccentric angle is ϕ.

Normals are drawn at the ends of conjugate diameters of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$. Shew that their points of intersection describe the curve $2\,(a^2x^2 + b^2y^2)^3 = (a^2 - b^2)^2\,(a^2x^2 - b^2y^2)^2$.

IV. Trace the loci of the following equations :—

$$7x^2 - 17xy + 6y^2 + 23x - 2y - 20 = 0.$$
$$x^2 - 5xy + y^2 + 8x - 20y + 15 = 0.$$
$$(5x - 12y)^2 - 2x - 29y - 1 = 0.$$

Draw the figure in each case.

V. Shew that the polar reciprocal of one circle with respect to another is a conic section. To what points and lines in the original figure do the following lines and points in the transformed figure correspond? Directrix, focus, centre, latus rectum, axes, vertices, asymptotes.

VI. Find the centre of the conic whose trilinear equation is $\phi\,(\alpha, \beta, \gamma) = 0$.

Conics pass through the angular points and the centre of perpendiculars of a fixed triangle. Shew that the locus of their centres is the nine-point circle of the triangle.

VII. The two equations

$$\left.\begin{aligned} &\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = 1. \\ &lx + my + nz = p. \end{aligned}\right\}$$

represent two straight lines if $p^2 = a^2 l^2 + b^2 m^2 - c^2 n^2$.

VIII. A straight line moves so as always to intersect the three straight lines whose equations are $y = b$, $z = -c$; $z = c$, $x = -a$; $x = a$, $y = -b$; shew that it generates the hyperboloid

$$ayz + bzx + cxy + abc = 0.$$

IX. U and V being expressions of the second degree, L, M, N, P expressions of the first degree, respectively, in the co-ordinates, interpret the equations

$$U + \gamma V = 0, \quad U + \gamma LM = 0, \quad U + \gamma L^2 = 0.$$
$$U + \gamma L = 0, \quad U + \gamma = 0, \quad LM + \gamma NP = 0$$
$$LM + \gamma P^2 = 0, \quad \gamma \text{ being a constant.}$$

If three quadrics have one plane curve common to all of them, each pair must have also another common plane curve; and the three planes of these last common curves pass through the same line.

X. Find the axes and the area of the section of the ellipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$ made by the plane $lx + my + nz = 0$.

The sections of the ellipsoid made by tangent planes to the cone $\frac{x^2}{a^2 - k^2} + \frac{y^2}{b^2 - k^2} + \frac{z^2}{c^2 - k^2} = 0$ are of constant area.

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

NEWTON AND DIFFERENTIAL CALCULUS.

I. Show that the vanishing subtenses of the angle of contact in all curves which have finite curvature at the point of contact are ultimately in the duplicate ratio of the chords of the conterminous arcs. Thence deduce that the sagitta of an arc is ultimately one-fourth of the subtense drawn at the extremity of the arc parallel to the sagitta.

II. The velocity of a body attracted towards a fixed centre in a non-resisting medium is reciprocally proportional to the perpendicular from the centre on the tangent to the orbit.

If a body describe an ellipse under the action of a central force tending to one of the foci, the product of the velocities at the extremities of any chord parallel to the major axis is constant.

III. Prove that the force under the action of which a body P revolves in any orbit about a centre of force S is to the force under the action of which the same body P can revolve in the same orbit in the same periodic time about any other centre of force R as $RP^2 \cdot SP$ is to SG^3, where SG is drawn from S parallel to RP to meet the tangent to the orbit at P in G.

Apply this theorem to deduce the law of force to the focus of an ellipse from the law of force to the centre.

IV. Obtain equations for determining the elements of an elliptic orbit described about a centre of force in the focus.

A particle, acted on by a force which varies inversely as the square of the distance, is projected with a velocity which is to the velocity in a circle at the same distance as $\sqrt{5}$ is to $\sqrt{3}$, making an angle $\tan^{-1}\sqrt{\frac{3}{2}}$ with the line joining the point of projection to the fixed point. Find the eccentricity and latus rectum of the orbit described.

V Find $\frac{d^n e^{lx} \operatorname{Sin} mx}{d x^n}$.

If $y = 1 + ca^y$, shew that $y = 1 + ac + 2 \log a \frac{a^2 c^2}{\lfloor 2} + 3 (\log a)^2 \frac{a^3 c^3}{\lfloor 3} + \&c.$

VI. Shew that $\phi (x + h, y + k) = \Sigma \frac{1}{\lfloor n} \left(h \frac{d}{dx} + k \frac{d}{dy} \right)^n \phi (x, y)$ and give the form of the remainder.

If $\phi (x, y)$ be a homogeneous function of x, y of n dimensions, prove that $\left(x \frac{d}{dx} + y \frac{d}{dy} \right)^2 \log \phi (x, y) = - n$.

VII. The limit when $x = \infty$ of $\frac{\phi (x)}{x}$ is equal to the limit of $\phi (x + 1) - \phi (x)$. Prove this, and thence deduce when $x = \infty$ the limit of $\frac{x}{(\lfloor x)^{\frac{1}{x}}}$.

VIII. Change the variable in $(1 - y^2)^2 \frac{d^2 u}{dy^2} - 2y (1 - y^2) \frac{du}{dy} + \frac{2a}{1 - y} u = 0$ from y to x, having given $2x = \log \frac{1 + y}{1 - y}$.

If $u = f (x, y) = F (v, z)$ and $v = \phi (ax - cz) = \psi (ax + by)$, shew that $\frac{1}{a} \cdot \frac{df}{dx} = \frac{1}{b} \cdot \frac{df}{dy} + \frac{1}{c} \cdot \frac{dF}{dz}$.

IX. If the equation to a curve be $r = f(\theta)$, the equation to the normal at the point whose angular co-ordinate is a is $\frac{1}{r}$ $= \frac{\text{Cos}\,(\theta - a)}{f(a)} + \frac{\text{Sin}\,(\theta - a)}{f^1(a)}$.

In the curve $r = a(1 + \text{Cos}\,\theta)$, shew that the normal at the point a cuts the initial line at a distance $\frac{a \text{ Sin } a \text{ Cos } \frac{a}{2}}{\text{Sin } \frac{3a}{2}}$ from the origin.

TUESDAY, 22ND JANUARY, 2 TO 5 P.M.

INTEGRAL CALCULUS AND DIFFERENTIAL EQUATIONS.

I. Find the limit, when n is infinite, of

$$\frac{1}{n} + \frac{1}{n+a} + \frac{1}{n+2a} + \ldots + \frac{1}{n+na}.$$

II. Integrate:

(i) $\dfrac{dx}{a \pm \sqrt{(b^2 \pm x^2)}}$.

(ii) $\sin^{-1} \dfrac{b}{\sqrt{(a^2 - x^2)}}\, dx$.

(iii) $e^{ax} \sin bx\, dx$.

(iv) $\dfrac{dx}{(5x^3 - 3x)^2 (x^2 - 1)}$.

III. Prove:

(i) $\displaystyle\int_a^{\pi - a} x f(\sin x)\, dx = \frac{\pi}{2} \int_a^{\pi - a} f(\sin x)\, dx.$

(ii) $\displaystyle\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{x dx}{\sin x \cos x} = \frac{\pi}{4} \log 3$

and shew that

$$\int_b^c \frac{\phi(x-b)}{\phi(c-x)}\,dx = \int_b^c \frac{\phi(c-x)}{\phi(x-b)}\,dx.$$

provided that $\phi(x)$ remains finite when x vanishes.

IV. The area of any portion of the curve $f\left(\frac{x}{a}, \frac{y}{b}\right) = 0$ is ab times the area of the corresponding portion of the curve $f(x, y) = 0$.

Prove that the area of the curve

$$\frac{(x^2+y^2)^2}{a^2 b^2} = \left(\frac{x^2}{a^2} + \frac{y^2}{b^2}\right)^3$$

is $\dfrac{\pi(3a^4 + 2a^2 b^2 + 3b^4)}{8ab}$.

V. Shew that the area of the pedal of an ellipse with respect to the centre is half the area of the director circle, and is less than the area of the pedal with respect to any other point.

VI. Integrate the equations

(i) $(x - x^2)\dfrac{dy}{dx} = y(1 - 2x)$.

(ii) $y^2 \dfrac{d^2 y}{dx^2} + y\left(\dfrac{dy}{dx}\right)^2 + y^3 = a^3$.

(iii) $\dfrac{d^3 y}{dx^3} + 5\dfrac{d^2 y}{dx^2} + 7\dfrac{dy}{dx} + 3y = e^{-x}\sin 2x$.

(iv) $(x - y)^2(1 + p^2) = a^2(1 + p)^2$
and find the singular solution of (iv).

VII. Shew that the differential equation

$$xy\left(\frac{dy}{dx}\right)^2 + (x^2 - y^2 - h^2)\frac{dy}{dx} - xy = 0.$$

represents the family of confocal conics whose foci are the points $(\pm h, 0)$. What does the singular solution become in this case? Shew from the differential equation that the two confocals through any point intersect at right angles.

VIII. If $z = u$ be one solution of the equation

$$P\frac{d^2 z}{dx^2} + Q\frac{dz}{dx} + Rz = 0$$

where P, Q, R, are functions of x only, then the complete solution is

$$z = Au + Bu \int \frac{dx}{u^2 e^v}$$

where $v = \int \frac{Q}{P} dx$ and A, B are arbitrary constants.

IX. Shew how to solve the partial differential equation

$$P \frac{dz}{dx} + Q \frac{dz}{dy} = R.$$

Solve

$$y \frac{du}{dx} + x \frac{du}{dy} = x^2 + y^2 .$$

$$\frac{d^2 u}{dx^2} + \frac{d^2 u}{dy^2} + \frac{d^2 u}{dz^2} - \frac{d^2 u}{dydz} - \frac{d^2 u}{dzdx} - \frac{d^2 u}{dxdy} = 0.$$

X. Find a solution in series of the equation

$$\frac{d^2 y}{dx^2} + \frac{1}{x} \frac{dy}{dx} - y = 0.$$

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

STATICS AND HYDROSTATICS.

I. Prove that any system of forces can be reduced to a wrench; that is, to a force along a certain axis and a couple about that axis.

The axes of two wrenches of given magnitudes (R, G), (R′, G′) intersect; if the wrenches are equivalent to a single force, prove that their axes are inclined at an angle

$$\text{Cos}^{-1} \left(- \frac{RG + R'G'}{RG' + R'G} \right).$$

II. Find the equation to the line of action of the resultant of a given system of forces in one plane.

If each force of the system be turned round its point of application through the same angle in the same sense, show that the resultant turns through the same angle round a certain point in its line of action whose position is independent of the size of the angle.

III. Distinguish between stable and unstable equilibrium.

A beam turns about a hinge at its lowest point, and a string fastened at its other end passes over a pulley vertically above the

hinge and supports a weight hanging freely. Find the positions of equilibrium, and determine whether they are stable or unstable.

IV. Obtain equations to determine the form of a string, and the tension at any point, when acted on by a central force: and shew how the constants of integration may be evaluated.

A string is in equilibrium in the form of an ellipse, every particle of it being repelled from the focus with a force proportional to the mass of the particle and inversely proportional to its distance from the focus. Show that the density of the string at any point varies inversely as the diameter parallel to the tangent at that point.

V. An elastic string whose density varies as the nth power of the distance from one end is suspended by that end and stretched by its own weight. If W be the weight of the string, a its unstretched length, l its stretched length, prove that

$$l = a\left(1 + \frac{n+1}{n+2} \cdot \frac{W}{E}\right)$$ where E is the modulus of elasticity.

VI. Define the potential of a system of attracting bodies at any point of space. If the law of attraction be that of nature, show from your definition that the potential at a point is $\int \frac{dm}{r}$ where dm is an element of mass of an attracting body, r its distance from the point, and the integration extends to all the attracting bodies.

Find the potential, at any point, of an attracting bar of uniform density and small uniform section, and show that the level surfaces are prolate spheroids having the ends of the bar for foci.

VII. If X, Y, Z be the components of force per unit of mass acting at a point (x, y, z) of fluid in equilibrium, and ρ be the density at the point, prove that $\frac{d}{dz}(\rho Y) = \frac{d}{dy}(\rho Z)$ &c.

If l, m, n be the direction cosines of the resultant force at the point prove that

$$l\left(\frac{dm}{dz} - \frac{dn}{dy}\right) + m\left(\frac{dn}{dx} - \frac{dl}{dz}\right) + n\left(\frac{dl}{dy} - \frac{dm}{dx}\right) = 0.$$

VIII. A quantity of liquid, the density of which is a given function of the depth, is transferred from one vessel to another, each vessel being a surface of revolution with its axis vertical, show how to find the new law of density.

A quantity of liquid, the density of which varies as the depth is transferred from a cylinder to a hemispherical bowl which it just fills, the radius of the cylinder being the same as that of the bowl. Find the new law of density, and prove that the whole pressures on the curved surface of the cylinder and on the surface of the bowl are in the ratio of 80 to 243.

IX. Investigate the conditions for the stability of a solid floating partly immersed in a fluid of uniform density, when slightly displaced.

A cylinder of given radius floats with a height h immersed in fluid which is contained in a second cylinder whose radius is double that of the first. Show that the time of a small vertical oscillation is $\pi\sqrt{\frac{3h}{g}}$.

If the fluid, instead of being contained in a cylinder, is an infinite perfectly calm sea, show that the time of oscillation will be $2\pi\sqrt{\frac{h}{g}}$.

X. Show that the work done in compressing a gas at constant temperature from volume V to volume v is $Mk\log\frac{V}{v}$ where M is the mass of the gas, and k the pressure at unit density.

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

OPTICS AND ASTRONOMY.

I. A small plane area is placed at the focus S and perpendicular to the axis of a paraboloid which is uniformly luminous. If the axis of the paraboloid be three-fourths of its latus rectum, show that the illumination of the two sides of the area is as 1 : 4

II. Rays diverging from a point are refracted at a plane surface. Show that the caustic is the evolute of a conic section.

III. A ray of light is propagated through a medium of variable density in a plane which divides the medium symmetrically. If the refractive index at any point x, y be a function of x, y, find the differential equation of the path of the ray.

If $\log \mu = x - y$, μ being the refractive index, show that the curvature of the path varies as $\sqrt{1 + 2\frac{dx}{ds} \cdot \frac{dy}{ds}}$.

IV. Determine the position of the foci of a small pencil of rays refracted obliquely through a prism, the axis of the pencil being in a principal plane and very near its edge.

Show that the condition that after emergence the pencil should diverge from a point is also the condition of minimum deviation, and explain the value of this result in forming a pure spectrum.

V. Draw a figure of the astronomical telescope with Huyghens's eye-piece, and trace the course of a pencil of rays from a very distant point to the eye.

If r_1, r_2 be the radii of the object-glass and eye-glass respectively, and f_1, f_2 their focal lengths, and a the radius of the pupil of the eye, at what distance from the eye-piece must the eye be placed that it may see the whole field of view?

VI. Given the errors of collimation, of level, and of azimuth, of a transit instrument, find an expression for the error of time of transit of a star in terms of the latitude of the place and the declination of the star.

VII. What is the equation of time. When is the part due to the obliquity of the ecliptic a maximum, and when the part due to the unequal motion?

VIII. Find the effect of aberration on the right ascension and declination of a star.

At half yearly intervals the relative right ascensions of three stars will not be altered, if $\text{Cos}\,\delta\,\text{Sin}\,(\alpha' - \alpha'') + \text{Cos}\,\delta'\,\text{Sin}\,(\alpha'' - \alpha) + \text{Cos}\,\delta''\,\text{Sin}\,(\alpha - \alpha') = 0$, where δ, δ' δ'' are their declinations and α, α' α'' their right ascensions.

IX. Trace the apparent motion of a superior planet and investigate the angle of elongation from the sun at which it appears stationary.

X. Assuming the several known particulars of the earth's motion round the sun and of the moon's motion round the earth, show by a rough calculation that the duration of a total eclipse of the sun, for a place on the equator, at the time of an equinox, is about doubled by the diurnal rotation of the earth.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

DYNAMICS.

PART I.

I. A particle moves in a plane. Find expressions for the acceleration along the tangent and normal to its path.

A particle describes a curve. If the normal acceleration is equal to the tangential acceleration, show that the velocity at any point varies as e^{ϕ}, $s = f(\phi)$ being the intrinsic equation to the curve.

II. A particle is acted on by a central force. Investigate the polar equation to its path.

A particle is acted on by a force varying inversely as the cube of the distance, and is moving initially in a direction inclined at an angle of 45° to its distance a from the centre of force with a velocity equal to $\frac{2}{\sqrt{3}} \times$ that which it would acquire in moving from an infinite distance to its initial distance if it starts from rest and is acted on by the same force. Show that the orbit described is given by the equation

$$\frac{2a}{r} = (\sqrt{2}+1)\, e^{\frac{\theta}{\sqrt{2}}} - (\sqrt{2}-1)\, e^{-\frac{\theta}{\sqrt{2}}}.$$

III. Determine the motion of a particle acted on by given forces and constrained to move in a smooth tube in the form of a given plane curve of indefinitely small sectional area, which revolves in a given manner about an axis in its plane.

A circular tube revolves uniformly about a vertical diameter. If a particle be projected from the lowest point with velocity due to the diameter, it will tend to reach the highest point. What must the velocity of projection be that the particle may oscillate about the lowest point?

IV. A particle acted on by a constant force parallel to a fixed line is projected from a given point in a given direction with a given velocity, and moves in a uniform medium whose resistance varies as the square of the velocity. Find the differential equation to the path of the particle.

V. An impulsive tension in the direction of the tangent is

applied at one extremity of a uniform perfectly flexible string, lying on a smooth plane. Find the impulsive tension at any point of the string, and the initial direction of motion of each particle of the string.

PART II.

VI. Shew how to determine the motion of a body about a fixed axis under the action of any forces.

In the ordinary wheel and axle, if m, m' be the masses of the "power" and "weight" respectively, $2M$, $2M'$ the masses of the wheel and axle respectively and a, a' their radii, show that the angular velocity of the machine at time t is

$$\frac{ma - m'a'}{(M + m)\,a^2 + (M' + m')\,a'^2}\,gt.$$

Find the tensions of the strings supporting the "power" and "weight."

VII. Two equal uniform rods freely jointed together are placed with their middle points resting on two fixed pegs in the same horizontal line, the distance between the pegs being less than the length of each rod, and are then let go. Shew that they will oscillate between their initial position and the horizontal position.

If the distance between the pegs be equal to the length of each rod, and if the system start with the joint vertically over the middle point of the line joining the pegs, the other extremities of the rods being in contact with the pegs, shew that the angular velocity of the rods when they reach the horizontal position is $\left\{ 3\sqrt{3}\,\frac{g}{a} \right\}^{\frac{1}{2}}$, and the angular velocity at the instant of leaving the pegs is $\left\{ \frac{24\sqrt{3}}{151}\,\frac{g}{a} \right\}^{\frac{1}{2}}$.

VIII. What is meant by the "Impulse" of a force, *i.e.* the "Whole Force" expended during a given time? Show that the Impulse of a force is equal to the momentum generated by that force.

Three equal uniform rods AB, BC, CD, freely jointed at B and C, are placed on a smooth horizontal plane so as to form three sides of a square, and a blow is applied at A in a direction perpendicular to AB from the inside. Show that the initial velocity of A is nineteen times that of D.

IX. Show that at any instant the most general motion of a

rigid body consists of a motion of translation along a certain axis together with a motion of rotation about that axis.

If radii vectores be drawn from a fixed point to represent in magnitude and direction the velocities of all points of a rigid body in motion, prove that the extremities of these radii at any one instant lie on a plane.

X. A plane lamina bounded by a curve rolls on a fixed perfectly rough curve in the same plane under the action of given forces in that plane: show how to determine the motion by taking moments round the point of contact.

A heavy uniform circular disc of radius a rolls on a fixed rough curve $s = f(\phi)$ in the same vertical plane, starting from the highest point from which s and ϕ are measured: prove that the equation of motion is

$$\left\{a + f'(\phi)\right\}\frac{d^2\phi}{dt^2} + f''(\phi)\left(\frac{d\phi}{dt}\right)^2 = \frac{2}{3}g\sin\phi.$$

If the fixed curve be a parabola whose axis is vertical, vertex upwards, and latus rectum $\frac{1}{8}$ a, prove that

$$a(12 + \sec^3\phi)^2\left(\frac{d\phi}{dt}\right)^2 = 8g\left(48\sin^2\frac{\phi}{2} + \tan^2\phi\right).$$

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

PROBLEMS.

I. Solve the equation $x^3 - 3xy^2 - y^3 = 1$ and $xy(x+y) = 6$, and shew that the nth convergent to

$$\cfrac{1}{1+\cfrac{1}{3+\cfrac{2}{3+\cfrac{4}{3+\dots}}}}$$

is $\dfrac{4^n + (-1)^{n-1}}{4^n + 4^{n-1}}$.

II. Given the centre of a conic and two tangents, shew that the locus of the focus is a rectangular hyperbola.

III. In the straight line bisecting the angle P of a triangle

PQR is taken a point O. If the difference of the angles POQ, POR is a maximum, shew that OP is a mean proportional between PQ, PR.

IV. Find the limiting value when x tends to zero of $\frac{d^n}{dx^n}$

$$\left\{\frac{x}{\log(1+x)}\right\}^{n+1}.$$

V. Shew that $\int_0^{\frac{\pi}{2}} x \cot x \, dx = \frac{\pi}{2} \log 2$, and that the area of each loop of the curve $y = x \operatorname{Sin}^{-1} \frac{x}{2a}$ is πa^2.

VI. Integrate the equations

$$(1)\ x \frac{dy}{dx} - ay = 1 - b \log x.$$

$$(2)\ \frac{d^2 u}{dx^2} - 5 \frac{du}{dx} + 6u = xe.$$

VII. A heavy rod, whose weight is W rests upon a fulcrum at its middle point, when loaded at one end with a weight W_1 the density at any point of the rod at the distance x from a certain point in it varies as $\operatorname{Cos.} \frac{\pi x}{2a}$, a being the length of the rod. Find the ratio of W to W_1.

VIII. A body P moves with a uniform velocity $v = \frac{\sqrt{\mu}}{4\sqrt{2}\, a^2}$ in a circular tube whose radius is a, and attracts a body Q within the same tube with a force $= \frac{\mu}{(\text{dist})^5}$. Shew that if P and Q be originally situated at the opposite extremities of a diameter and Q at rest, the bodies will come into collision at the end of the time $\frac{\mu a}{2v}$.

IX. A cylindrical vessel, the axis of which is vertical, is furnished with a lid which turns round a hinge in its circumference. Supposing it to be just filled with fluid, and made to revolve with a given angular velocity round a generating line, find what the weight of the lid must be that no fluid may escape.

X. A plane elliptic mirror revolves on its major axis. Shew that the locus of a bright point so placed, that the mirror may throw a rectangular hyperbolic patch of light on a wall perpendicular to the axis of the mirror, is the spheroid generated by the revolution of the mirror.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

PURE MATHEMATICS.

I. What must the relation between the co-efficients of the equation $x^4 + ax^3 + bx^2 + cx + d = 0$ be in order that the co-efficients of x^3 and x may admit of being removed by a single transformation. Solve the equation $x^4 + 6x^3 + 10x^2 + 3x - \frac{43}{8} = 0$.

II. Sum the following infinite series

$$(1)\quad x + \frac{x^5}{\lfloor 5} + \frac{x^9}{\lfloor 9} + \&c.$$

$$(2)\quad 1 + \frac{5}{8} + \frac{5\,.\,7}{8\,.\,10} + \frac{5\,.\,7\,.\,9}{8\,.\,10\,.\,12} + \&c.$$

III. In a spherical triangle b and c are constant. Prove that small variations of the other elements are connected by the relations $\delta B \tan C = \delta C \tan B$, and $\delta a = \delta A \sin c \sin B$.

IV. Shew that the two tangents from the point h, k to the conic $\phi(x, y) = 0$ are given by the equation $[x(ah + c'k + b') + y(c'h + bk + a') + b'h + a'k + c]^2 = \phi(h, k) \times \phi(x, y)$, if $\phi(x, y) = ax^2 + by^2 + c + 2a'y + 2b'x + 2c'xy$.

V. Prove that through a given point there can be drawn two confocals to a given conic and that they cut the given conic at right angles.

VI. A conic touches the three sides of a triangle, and has one focus in a given straight line. Find the locus of the other focus.

VII. Shew that the equation obtained by eliminating a from the equation $z = ax + y\phi(a) + \psi(a)$ and $0 = x + y\phi'(a) + \psi'(a)$ represents a developable surface. Thence deduce the general differential equation of developable surfaces.

VIII. Establish a method for finding the asymptotes of a curve. Example $x(x^2 - 3y^2 - a^2) - 2y(y^2 - a^2) = a^3$

IX. Find the value of the multiple integral $\iiint x^{l-1} y^{m-1} z^{n-1} \ldots dx\, dy\, dz \ldots$, the integral being so taken as to give to the variables all positive values consistent with the condition that $x + y + z + \ldots$ is not greater than unity.

X. Show how to integrate the general equation $\frac{d^2 y}{dx^2} + \int (x) \cdot \frac{dy}{dx} + \phi(y) \left(\frac{dy}{dx}\right)^2 = 0$, and obtain the complete primitive of $\frac{d^2 y}{dx^2} - \frac{1}{x} \cdot \frac{dy}{dx} + 2y\left(\frac{dy}{dx}\right)^2 = 0$.

XI. Deduce the complete primitive of the differential equation $Pdx + Qdy + Rdz = 0$, when $P\left(\frac{dQ}{dz} - \frac{dR}{dy}\right) + Q\left(\frac{dR}{dx} - \frac{dP}{dz}\right) + R\left(\frac{dP}{dy} - \frac{dQ}{dx}\right) = 0$.

FRIDAY, 25TH JANUARY, 2 TO 5 P M.

PROBLEMS.

I A triangle is inscribed in a circle: prove that the tangents to the circle at the angular points of the triangle meet the opposite sides produced in three points which lie on a straight line.

II. If b is an integer, prove that

$$\frac{b}{a-b+1} = \frac{b}{a} + \frac{b(b-1)}{a(a-1)} + \frac{b(b-1)(b-2)}{a(a-1)(a-2)} + \ldots + \frac{b(b-1)\ldots\ldots 1}{a(a-1)\ldots(a-b+1)}.$$

III. The number of spaces into which n great circles, no three of which pass through the same point, divide the surface of a sphere, is $2 + n(n+1)$; and the number of regions formed by n straight lines in a plane, no three lines passing through a point, is $1 + \frac{n}{2}(n+1)$.

IV. Solve the equation

$$x^n + nx^{n-1} \cos a + \frac{n(n-1)}{1\,2} x^{n-2} \cos 2a + \ldots + nx \cos (n-1)a + \cos na = 0.$$

V. From two points L, M, on the minor axis of an ellipse,

four tangents are drawn to the ellipse. Prove that their four points of intersection, other than L, M, lie on a circle passing through the foci.

VI. The four hyperboloids, each containing three out of four given non-intersecting lines, have two generators common to all of them.

VII. The evolute of the cardioid $r = a(1 - \cos\theta)$ is a cardioid of one-third the size of the original, having its vertex at the origin and its cusp at the point $(-\frac{2}{3}a, o)$.

VIII. Prove

$$\int_0^\infty \frac{\log x}{(1+x)^4}\,dx = -\tfrac{1}{6}.$$

$$\int_0^1 \left(\frac{\log x}{1+x}\right)^2 = \frac{\pi^2}{6}.$$

IX. A particle describes an ellipse under two forces tending to the foci, which are to one another at any point inversely as the focal distances. Prove that the velocity varies as the perpendicular from the centre on the tangent, and that the periodic time is $\frac{\pi}{k}\left(\frac{a}{b} + \frac{b}{a}\right)$ where ka, kb, are the velocities at the extremities of the axis.

X. AB, BC are two equal uniform heavy rods freely jointed at B, and the end A is jointed to a fixed point while C slides by means of a small ring on a fixed vertical smooth rod passing through A. The plane containing the whole is constrained to revolve with uniform angular velocity about the fixed rod AC. Show that the inclination θ of the rods to the vertical at any time t, is to be found from the equation

$$(1 + 3\sin^2\theta)\left(\frac{d\theta}{dt}\right)^2 = \omega^2(\cos\alpha - \cos\theta)(\cos\theta - \cos\beta) \text{ where}$$

α and β are the extreme values of θ.

Show also that $\omega^2 a(\cos\alpha + \cos\beta) = 3g$ and that if $2\omega^2 a\cos\alpha = 3g$, the time of a small oscillation is

$$\frac{2\pi}{\omega\sin\alpha}\sqrt{(1 + 3\sin^2\alpha)},$$

SATURDAY, 26TH JANUARY, 10 A.M. TO 1 P.M.

MIXED MATHEMATICS.

I. Prove the "principle of virtual velocities" and deduce the six ordinary equations of equilibrium.

II. If F be the force of attraction due to the action of gravitating bodies upon a unit mass imagined at a point P of a closed surface S, θ the angle between the directions of F and of the normal at P measured inwards, and $d\sigma$ the element of the closed surface at P, prove that $\int F \cos\theta \, d\sigma = 4\pi M$, the integral being taken over the whole surface of S, and M being the mass of the bodies inside S.

Hence prove the equation

$$\frac{d^2 V}{dx^2} + \frac{d^2 V}{dy^2} + \frac{d^2 V}{dz^2} + 4\pi\rho = 0.$$

III. State the laws connecting fluid pressure, temperature, and volume.

If the temperature of the air at height z above the surface of the earth be given by the formula $t = t_0\left(1 - \frac{z}{\gamma}\right)$ where t_0, γ are constants, prove that the law connecting pressure and density is $p \propto \rho^{1+m}$ where $m = \frac{\kappa a t_0}{g\gamma - \kappa a t_0}$; and find the pressure and density at height z above the surface, the values at the surface being p_0, ρ_0.

IV. A particle acted on by no forces is projected in a medium in which the resistance varies as the nth power of the velocity. Determine the motion completely.

A heavy particle just fits a verticle tube of length a, containing air and closed at the bottom. The law connecting pressure and volume being $pv^{\kappa} = \lambda$, supposing the particle dropped from the top of the tube, find how far it will sink. Also find the time of a small oscillation if the particle be slightly disturbed from its position of equilibrium.

V. Define the hodograph of a moving particle. A particle moves in a circle under the action of a central force: show that the hodograph is a conic section. If the centre of force be on the circumference of the circle, the hodograph is a parabola.

VI. A body is in motion about a fixed point under the action of no forces, prove that the instantaneous axis describes a cone of the second degree both in the body and in space. Find the equation to the former cone referred to the principal axes at the fixed point, and show that the motion may be represented by making the former cone roll on the latter.

VII. Shew that the Caustic by reflexion at a curve S of rays proceeding from a point O is similar and similarly situated to the evolute of the pedal of S with respect to O, and is of twice the size, O being the centre of similitude.

Show that the asymptotes of the Caustic will be those rays which are reflected from points on the curve where $3p\rho = 2r^2$, ρ being the radius of curvature, r the radius vector and p the perpendicular on the tangent from O.

VIII. How is the apparent position of a heavenly body affected by parallax. Explain what is meant by horizontal parallax.

If h' is the parallactic change of the hour angle h, prove that

$$\frac{\text{Sin } h'}{\text{Sin } (h + h')} = \frac{\text{Sin } c \text{ Sin } P}{\text{Sin } \Delta}$$

where c is the Colatitude of the observer, Δ and P the North Polar Distance and horizontal parallax of the observed body.

IX. Explain the method of "lunar distances" for finding the longitude. What is meant by the phrase "clearing the distance"? Explain how, in modern navigation, it is only necessary to observe the "lunar distance" and not the altitudes. What is the usual method of obtaining the longitude at sea?

SATURDAY, 26TH JANUARY, 2 TO 5 P.M.

PROBLEMS.

PART I.

I. Show that $(n+m)^{n+1} - n(n+m-1)^{n+1} + \frac{n(n-1)}{1.2}(n+m-2)^{n+1} - \&c. = \left(\frac{n}{2} + m'\right) \lfloor n+1.$

II. If 2α be the angle between the tangents to an ellipse from a point P, and b, c be the major axes of the confocals through P, prove that $\tan^2 \alpha = \dfrac{a^2 - c^2}{b^2 - a^2}$, a being the major axis of the ellipse.

III. If a circle roll on a straight line, prove that when it has turned through an angle θ, the length of the envelope of that tangent of the circle which at first coincided with the fixed line is r $(2 \operatorname{Sin} \theta - \theta)$, r being the radius of the circle.

IV. A straight tube of length l revolves with an angular velocity ω about a vertical axis through its lowest point, being inclined to it at an angle α. Shew that if a particle is placed in the tube just above the position of relative equilibrium, its velocity along the tube when it leaves the tube is $\left(l^2\omega^2 \operatorname{Sin}^2 \alpha - 2gl \operatorname{Cos} \alpha + \dfrac{g}{\omega^2} \operatorname{Cos}^2 \alpha\right)^{\frac{1}{2}}$.

If $\alpha = 60°$ and $\omega = \sqrt{\dfrac{g}{l}}$, shew that the latus rectum of the parabola described by the particle after leaving the tube is $\dfrac{13l}{8}$.

V. A rod of length $2a$ descends in a vertical plane, its lower end sliding on a smooth horizontal plane. If the rod is originally inclined at 30° to the horizon, its angular velocity when it becomes horizontal is $\sqrt{\dfrac{3g}{4a}}$.

PART II.

VI. Two fixed lines intersect in O. Two fixed points A, B are taken on one of them, and a variable point C on the other. OP, OQ are drawn perpendicular to AC, BC respectively. Prove that $\dfrac{OP \cdot OQ}{PQ^2}$ is a constant for all positions of C.

VII. A spherical quadrilateral ABCD is inscribed in a small circle, and a, b, c, d are its edges taken in order, and x, y its diagonals. Prove that

$$A + C = B + D.$$

$$\operatorname{Sin} \frac{a}{2} \operatorname{Sin} \frac{c}{2} + \operatorname{Sin} \frac{b}{2} \operatorname{Sin} \frac{d}{2} = \operatorname{Sin} \frac{x}{2} \operatorname{Sin} \frac{y}{2}.$$

VIII. The equation to the locus of intersection of tangents at the extremities of normal chords of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$ is $\frac{a^6}{x^2} + \frac{b^6}{y^2} = (a^2 - b^2)^2$.

IX. Eliminate ϕ between the equations

$$e^z = \left(\frac{d\phi}{dx}\right)^2 + \left(\frac{d\phi}{dy}\right)^2$$

$$0 = \frac{d^2\phi}{dx^2} + \frac{d^2\phi}{dy^2}$$

obtaining the result

$$0 = \frac{d^2 z}{dx^2} + \frac{d^2 z}{dy^2}.$$

* X. A hollow sphere of radius a, whose interior is polished, has a small aperture at A in which is placed a thin convex lens of focal length $\frac{4}{3}a$, perpendicular to the diameter AB. Rays diverging from a point P on BA produced are refracted through the lens into the sphere, and after reflexion at B and a second refraction through the lens are brought to a focus at Q. Prove that $AP \cdot AQ = 16a^2$.

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

PHYSICS.

N.B.—Of the first eight questions any six only are to be attempted.

I. State Newton's three Laws of Motion: and fully discuss the *second* Law.

II. What is g? Explain fully how you would determine it (1) by means of Atwood's Machine, and (2) by means of the Pendulum.

III. Describe the Gyroscope, and how it may be used to illustrate certain physical principles.

IV. What are the various conditions of sensibility and stability to be observed in the construction of a good balance? Describe the arrangements adopted in practice to meet these conditions.

V. What is the *metacentre* of a floating body? Show by figures how the stability of floatation depends on the position of the metacentre.

VI. With respect to an irregular surface AB placed below the surface of a liquid at rest, explain and distinguish the following:—*total pressure*, *resultant pressure*, *resultant vertical* and *horizontal pressure*, *centre of pressure*, and *centre of gravity*.

VII. (*a*) State and explain the various corrections that it is necessary to make in reading a mercury standard barometer.

(*b*) How would you practically determine whether the graduation of a given Aneroid was correct or not?

VIII. What is Torricelli's theorem as to the efflux of liquids? How would you experimentally test it? And what precaution must be taken as to measuring the size of the orifice?

IX. Give Newton's formula for the expression of the velocity of sound in a gas in terms of the elasticity and density. How is the discrepancy between the value deduced from this formula and that actually obtained by experiment to be accounted for?

X. Explain fully what is meant by the *harmonics* of a musical tone. State clearly the effect of these on the tone: and describe how you would experimentally detect the presence of harmonics (1) by the ear, and (2) by the eye.

XI. Give a clear explanation of Kundt's method for determining the velocity of sound.

XII. What are Chladni's sound figures? Give a few figures and explain how you would produce them. State generally the causes determining their character as to number and disposition.

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

LIGHT AND HEAT.

I. A pencil of light passes through a prism and then falls on a screen, how will the spectrum be affected by turning the prism about an axis parallel to its edge? Assuming that when the prism is placed at the angle of minimum deviation the incident and refracted rays make equal angles with the sides of the prism deduce an

equation connecting the index of refraction with this angle and the angle of the prism; and hence show how the refractive index of a solid can be measured.

II. Deduce the laws of refraction and reflection of light at a plane surface from the wave theory of light. Point out how the velocity of light in a denser medium, thus deduced, forms a crucial test in favour of this theory.

III. Describe a large spectroscope pointing out in detail the importance of the various parts. In what way has an ordinary spectroscope to be modified if it is to be used for examining—

(*a*) The ultra violet end of the spectrum.
(*b*) The infra rod end.

IV. Find the focus of a pencil of light directly incident on a spherical mirror.

Describe the construction of the Gregorian telescope.

V. Describe a Nicol's prism. What will be seen when—

(*a*) Polarized light is passed through a thin plate of selenite and is then viewed through a Nicol's prism?
(*b*) A plate of quartz cut perpendicularly to the axis is substituted for the selenite and monochromatic light is employed?

VI. Describe one method by which the coefficient of expansion of solids can be accurately measured. The coefficient of linear expansion of iron is 0·0000122 for 1°C find the specific gravity at 60°C of a piece of iron whose specific gravity at 0°C is 7·267.

VII. Give a short account of the "Theory of Exchanges." Apply it to the case of radiation from—

(*a*) Rock Salt, (*b*) Tourmaline,
(*c*) Lamp black, (*d*) Sodium vapour.

VIII. Describe the radiometer and explain its action by reference to the kinetic Theory of Gases. A source of heat is brought near a radiometer and the vanes rotate in one direction. After the source of heat has been removed, the vanes first come to rest and then begin to move in the opposite direction; account for this.

IX. What is meant by the *critical point* of a gas? The critical point for carbonic anhydride is 86° F. If a quantity of this gas

above that temperature be subjected to a pressure of 100 atmospheres and then slowly cooled to 50° F at the same pressure, compare what will take place with what would take place if the pressure of 100 atmospheres were applied to the gas originally at a temperature of 50° F.

X. What is meant by *Isothermal* and *Adiabatic curves?* Draw a diagram according to the plan used by Maxwell to show the effect of applying heat to ice at 0° F.

XI. Define absolute conductivity of heat and describe one method by which it can be measured. What is the influence of temperature on the conductivity of metals?

N B.—Only 8 questions should be attempted.

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

ELECTRICITY AND MAGNETISM.

I. Define the term difference of potential. What is understood by the potential at a point? and by what is it measured? Difference of potential and electro-motive-force are frequently spoken of as one and the same thing, how do you distinguish between them?

II. Define the terms magnetic moment and magnetic field. What do you mean by a unit pole and a unit field? How is a uniform magnetic field defined?

III. Describe the method of measuring the horizontal intensity of the Earth's magnetism by means of two observations with permanent magnets.

IV. What difference is there between the action of a solenoid through which a current is passing and a hollow cylindrical permanent magnet magnetized in the direction of its length? What bearing has this difference on Ampére's theory of magnetism?

V. If a ring of copper with its plane vertical revolve about its vertical diameter, what currents will be induced in it by terrestrial magnetism? and what will be the action of these currents on a small magnet suspended in the centre of the coil? To what purpose has the principle involved been applied.

VI. A galvanometer having a resistance of 990 Ohms is connected with a battery having an internal resistance of 10 Ohms. What should be the resistance of a shunt across the terminals of the galvanometer if it were required to reduce the current in the galvanometer by one half?

VII. Describe one of the following instruments:—

The sine galvanometer.
Weber's electrodynamometer.
Thomson's quadrant electrometer.

VIII. Give some account of the Contact and Chemical theories of the Voltaic battery.

IX. Describe any one of the modern electrostatic induction machines and explain its action.

X. Explain the principle of the Wheatstone's Bridge and show how large and small resistances may be measured by the same instrument.

TUESDAY, 22ND JANUARY, 2 TO 5 P M.

CHEMISTRY.

I. Describe and represent by equations the changes which occur when concentrated sulphuric acid is heated with each of the following substances, *viz.*:—potassium chlorate, oxalic acid, ethyl alcohol, potassium ferrocyanide, copper, charcoal, potassium iodide, manganese dioxide, potassium bichromate.

II. Explain the meaning of the terms "dissociation," "catalysis," and "isomerism." Give examples in illustration of your answer.

III Write what you know concerning the phlogistic theory, and the influence it had on the progress of chemical science.

IV. Give an account of Stas's researches on the atomic weights of the elements, describing both the methods he employed, and the results he obtained.

V. Give a detailed account of the process by which sodium bicarbonate is produced from the chloride, on a large scale, and make sketches of the plant employed. Describe also Weldon's process of "reviving" the oxide of manganese which has been used for generating chlorine.

VI. Describe clearly the methods you would employ in the quantitative analyses of Fahlore and of Felspar.

VII. How would you conduct the analysis of a mixture containing the following gases, *viz.* :—oxygen, nitrogen, hydrochloric acid, carbonic oxide, carbonic anhydride?

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

CHEMISTRY.

I. The simplest formula of quinine is $C_{10} H_{12} NO$. By what means would you ascertain the molecular weight of this substance?

II. Describe the preparation of stannic ethide, and give a sketch of the necessary apparatus.

III. Give an account of the chief derivatives of uric acid, and represent by equations the action of heat upon urea and thio-urea.

IV. What is the action of pure concentrated, and of dilute nitric acid on ethyl alcohol, acetic acid, ethylene alcohol, lactic acid, tartaric acid, mannite, phenol, and anthracene?

V. Give a short account of the composition and properties of alizarin, and describe the process by which it is artificially prepared.

VI. Describe the preparation of the following bodies from benzene, and show their relation to that compound:—aniline, phenol benzoic acid, benzoic aldehyde.

VII. Give the three graphic formulæ used to represent the constitution of aromatic compounds, and explain to what extent these formulæ are supported by experiment. What is meant by the ortho, meta, and para positions?

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

CHEMISTRY.

I. Describe the soda-lime process for determining the amount of nitrogen present in organic compounds. Explain how the standard solutions employed are prepared, and state what compounds do not yield their nitrogen as ammonia when treated by this process.

II. How would you estimate the phosphoric acid contained in 1/a soil, 2/ bone ash, and 3/ coprolites?

III. If given a liquid containing between 5 and 10 per cent. of alcohol by weight, and asked to determine the amount of alcohol actually present, what process would you adopt for the purpose? Mention any other methods which might be employed.

IV. Describe what you consider the best process for ascertaining the amount of crystallizable sulphate of quinine which can be obtained from a given sample of Chinchona bark.

V. Give a full account of the process for analysing potable waters with which you are best acquainted.

VI. Give an opinion on the comparative suitability for dietetic purposes of three samples of water which yielded the following results on analysis:—

In 100,000 parts ...	I. Upland surface.	II. Shallow well.	III. Deep well.
Total solid matters in solution ...	9 37	103·08	30·00
Organic Carbon ...	·297	·112	·079
„ Nitrogen ...	·018	·040	·051
Ammonia ...	·024	·070	·002
Nitrogen as Nitrites and Nitrates ...	·010	9·353	·834
Chlorine ...	1·19	23 50	2·23
Hardness before boiling ...	5·1	53·0	22·3
„ after „ ...	5·0	51·5	7·4

State the grounds of your opinion, and calculate the "total combined nitrogen," "previous sewage contamination" and "temporary hardness" of each of the samples.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

GEOLOGY.

I. What is the general geological term for such substances as sand, mud, ice, or solid stone?

II. How does Jukes apply the terms, '*lithological*' and '*petrological*'?

III. From the numbered specimens before you, select *lava*, *coal*, and *gneiss*. Give an account of the origin of each of these rocks. (Give the numbers of the selected specimens in your answer.)

IV. Name the specimens placed before you. Describe their composition and texture. (The numbers on the specimens should be quoted.)

V. How is the former existence of life displayed in rocks?

VI. What does '*unconformability*' indicate?

VII. What is a '*fault*'?

VIII. What is your opinion concerning permanency of level of land or sea? Give reasons for that opinion.

IX. Give some account of the different kinds of *denudation*.

X. What is the difference between *cleavage* and *jointing*? What rock shows cleavage best?

XI. How is it that on the surface of a comparatively level country, a great thickness of strata may be displayed by the outcrops of the rocks; or, in other words, what relation is there between the position or 'lie' of strata and the ascertaining of their thickness?

XII. What is the principle of *Artesian Wells*? In what arrangement of strata, and where, was the original artesian boring carried out?

XIII. On what features of rocks is the European succession of formations founded?

XIV. What does the sequence of European formations represent, as regards *time* and *life*?

XV. Give an account, as far as you can, of the rocks or deposits of Madras itself, the 'Red Hills' and the 'Mount.'

N.B.—The answers to questions VIII, IX, XIII, and XIV, should be exhaustive.

FRIDAY, 25TH JANUARY, 2 TO 5 P.M.

MINERALOGY.

I. Give a definition of a *mineral*.

II. Name as many as you can of the ordinary minerals entering into the composition of rocks.

III. Describe any system of classification of minerals that you are acquainted with.

IV. In diagnosing or describing minerals, what properties and

characteristics of them are usually considered sufficient for the purpose?

V. Describe a *goniometer* and its use.

VI. Give the 'scale of hardness.'

VII. What is a *crystal?* Enumerate its parts, and give an account of the *systems* of *crystallisation.*

VIII. What are the crystalline and amorphous forms of *Carbon?*

IX. What elementary substance in combination with oxygen is the most frequent constituent of rocks?

X. Name a few *Zeolites*, and state why are they so called.

XI. *Mica* and *Talc* are, notwithstanding the abuse of one or other name in India, easily distinguishable by mere hand examination, how?

XII. What is '*double refraction*,' and in what mineral is it displayed to greatest perfection?

XIII. What is the composition of *Precious Ruby*, *Sapphire*, *Diamond*, *Rock-crystal*, *Emerald*, *Amethyst*, and *Ice?*

XIV. From the numbered specimens before you, select *Quartz* and *Hornblende*. Give their composition and crystalline systems. (State their numbers in your answer.)

XV. Name and describe the specimens before you. (Their numbers must be quoted.)

SATURDAY, 26TH JANUARY, 10 A.M. TO 1 P.M.

PALÆONTOLOGY.

I. Give the name and zoological and geological positions of the earliest known organism.

II. Explain the structure of a foraminiferous shell and mention a Geological formation which bears the name of a remarkable foraminifer.

III. What is a Graptolite? Give, if you can, the names of some of the principal genera of the family and the geological formations to which they belong.

IV. In what respect do the Corals of the order Rugosa differ from the Corals of Mesozoic and living species. Mention some Palæozoic representatives of the order Rugosa.

V. Name the earliest known Mammal, indicate its zoological affinity, and state in what formations it has been found.

VI. Of what geological system was the genus Iguanodon characteristic, and in what special respect did it differ from the other great Saurian families?

VII. Mention the genera of plants which contributed most largely to the formation of the coal beds of the true Carboniferous system, and how their remains occur.

VIII. Explain the term "underclay."

IX. Name some of the principal families of the Trilobitidæ, and give their zoological and geological positions in time.

X. What is difference between homotaxeous and contemporaneous formations? Give examples of both.

XI. Describe the main difference between the shells of the Nautilidæ and the Ammonitidæ and state what geological epoch the latter are specially characteristic of.

XII. Name, at least generically, the fossils placed before you and mention their geological positions—Numbers 1 to 12 (the number of the specimen must be quoted).

SATURDAY, 26TH JANUARY, 2 TO 5 P.M.

ESSAY.

Write an Essay, on *one only* of the following subjects:—

A—Analogies among the phenomena of Sound, Light and Heat: and their importance.

B.—The applications of Spectrum Analysis to the heavenly bodies.

C.—The present position of the question of the natural arrangement of the elements, with special reference to the part taken in the discussion of the subject by Newlands, Meyer, and Mendeljeff respectively.

D.—The life history of a great volcano: giving its beginning, period of activity and growth, and its decadence after extinction, naming examples of existing volcanos illustrating each stage.

[Special reference should be made to the leading modern theories concerning volcanos and earthquakes.

The paper to be illustrated with diagrams of the great phases of change.]

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

BOTANY AND VEGETABLE PHYSIOLOGY.

I. Give an account of the structure of *Selaginella* and state in what respect its reproductive organs differ from those of a *Fern*.

II. Describe fully the minute structure of the stem of any *Fern*.

III. Give an account of the life-history of any *one* of the following plants illustrating your description, if you can, by means of drawings:—

Torula, Spirogyra, Fucus, Agaricus, Chara.

IV. What is meant by *Protandrous* and *Protogynous* plants? Give instances of both, taking your examples from Indian species.

V. Write out the salient characters of the four great sub-divisions of the class *Thallophyta*.

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

BOTANY AND VEGETABLE PHYSIOLOGY.

I. Describe in technical language the two plants marked A and B. Refer them to their natural orders, giving your reasons.

II. Give instances of plants the stamens of which open by *pores*, by *transverse slits* and by *valves*.

III. What plants are characteristic of (1) the *sea-coast*, and (2) the *tops of mountains?*

IV. Mention the plants, and the natural orders to which they belong, from which the following articles are obtained:—

Ebony, cinnamon, pepper, betel, mahogany, hemp, flax, nutmeg, rice, plantain, jujube, mango, lime, sal.

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

BOTANY AND VEGETABLE PHYSIOLOGY.

I. What are *Stomata?* Describe their structure, and state in what kinds of plants they occur, and in what kinds they are absent.

II. Describe the processes of growth which take place in the formation of *intercellular spaces* in the tissues of plants.

III. Explain how the *bordered pits* on the cell-walls of the Coniferæ are formed.

IV. Where are crystals found in plants? What forms do they assume? And what is their chemical structure?

V. The various parts of a flower are said to be the homologues of leaves. Upon what consideration is this statement made?

TUESDAY, 22ND JANUARY, 2 TO 5 P.M.

BOTANY AND VEGETABLE PHYSIOLOGY.

I. The evolution of Oxygen through the stomata of leaves is sometimes erroneously spoken of as respiration. How do plants truly *respire?*

II. What is meant by *Heliotropism?* Give instances of *positive* and *negative Heliotropism.*

III. What are the consequences to a young growing plant if it is deprived of all iron in its food.

IV. How is sugar formed in plants?

V. Explain the following terms:—*Assimilation, transpiration, tension.*

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

ZOOLOGY AND PALÆONTOLOGY.

I. Describe the Cetacea. Name the families now living. There in one extinct family: what were its peculiar features? When did it flourish? Describe the process of respiration in this order.

II. Describe the jaws and teeth of the Cobra.

III. Where do we find the earliest fossils of fish? Which order appeared first? Describe it. When did it attain its maximum both as regards numbers and development? Name living representatives of the order.

IV. Give the origin and mode of development of the Mammalian jaws.

V. Name the orders to which the following animals belong:—Shark: Python: Salamander: Lancelet: Sole: Chameleon: Sturgeon: Goose: Elephant: Carrion-Crow: Adjutant: Seal: Musk-rat: Pea-fowl.

VI. Describe the respiratory and generative apparatus of birds

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

ZOOLOGY.

I. Give the general characters of Rhizopods;—write a short description of the orders into which this class is divided, and give instances of each order.

II. Describe the aquiferous system of Sponges and the various purposes it subserves.

III. Write an account of the class Infusoria and give the orders into which it is divided, with instances of each order.

IV. Describe the order Rhizostomidæ, and give an account of the life-history of members of this order.

V. Describe the various coral-producing Cœlenterata.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

ZOOLOGY AND PALÆONTOLOGY.

I. Why are the Marsupials so called? Describe them. Where do we find them at the present day? How far back in time can they be traced, and where have their remains been discovered?

II. Describe the Ruminants. Name the families represented in India, and give examples.

III. Assuming as true that the Embryonic forms of animals resemble more or less the adult forms of their ancestors, illustrate this by the case of the tail in fishes.

IV. Describe the teeth and feet of the tiger.

V. How are the Raptores distinguished from other birds? Enumerate birds of this order which are common in India?

VI. Describe the different forms of sternum among birds and mammals.

VII. What is the structure of a hair? Give its origin and mode of growth.

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

ZOOLOGY.

I. To what sub-kingdom, class and order does the sea-urchin belong? Describe the structure of its shell, the spines, pedicellariæ, the tube-feet and digestive system.

II. Write a full description of the order Crinoidea.

III. Describe fully the order Tæniada and the Metamorphosis through which the young pass.

IV. Describe the Spider and the Scorpion and give a full account of their organs of digestion, circulation and respiration.

V. Describe the nervous system and organs of respiration in the class Insecta. What are the orders into which this class is divided? Give the characters of each order.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

ANIMAL AND COMPARATIVE PHYSIOLOGY.

I. Describe the structure of a medium sized artery, and the functions of its different layers and forms of tissue. What changes are observed in the relative quantities of these tissues on passing (*a*) to the larger, and (*b*) to the smaller arteries, and how are these changes to be accounted for?

II. Define arterial pressure. How is it estimated? In which arteries is it greatest, and why?

III. Describe in detail the causation of the complete pulse curve as recorded by the sphygmograph.

IV. Why *must* a man breathe whether he will or not? Explain the processes by which the oxygen passes from the outer air into the blood, and state how it is there disposed of in the first instance.

V. How is Peptone distinguished from other Proteids? Where and by what agencies is it normally produced? How may it be manufactured artificially?

VI. What is chyle? Describe the means by which it is propelled from its place of origin into the Subclavian vein.

VII. Account for the fact that all animals die.

FRIDAY, 25TH JANUARY, 2 TO 5 P.M.

ANIMAL AND COMPARATIVE PHYSIOLOGY.

I. Give a brief account of the evolution of the circulatory system in Invertebrates.

II. Describe the respiratory organs and process of respiration in branchiferous and pulmonate Gasteropods

III. Describe the nervous system of Mollusks and show how it differs from that of Articulata.

IV. Describe sexual and non-sexual reproduction and also those exceptional methods spoken of as "alternation of generation" and "parthenogenesis."

SATURDAY, 26TH JANUARY, 10 A.M. TO 1 P.M.

ANIMAL AND COMPARATIVE PHYSIOLOGY.

I. What are the main theories concerning the origin of species? Give, as fully as you can, Darwin's views on the subject.

II. Write a short description of the eye of the common house-fly and state the use of its various parts.

III. Give instances of luminosity in Invertebrates.

IV. What evidence exists leading to the belief that the sense of smell is present in the higher Articulata?

V. Describe the anatomical characters of the respiratory organs of Crustaceans and mention what is known regarding the composition of the blood of the crab.

SATURDAY, 26TH JANUARY, 2 TO 5 P.M.

ESSAY.

The Main types of Organisation in the Animal Kingdom.

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

PSYCHOLOGY · HAMILTON AND J. S MILL.

I. (*a*) Mill declines to accept the part statement of Hamilton's Relativity doctrine, *viz.*, "That we have a direct immediate knowledge of only the phenomena of matter, not its essence," as a true Relativity doctrine. If we grant this, does it or does it not follow that we must give up Relativity as regards our knowledge of Mind?

(*b*) State the remaining two parts of Hamilton's Relativity doctrine, and give Mill's criticism of them.

II. Hamilton says that we cannot form a positive notion of the Infinite, as *e g.*, Infinite Space. Mill says that we can form a positive, though inadequate, notion of it.

Examine whether these two propositions are, or are not, really inconsistent with one another.

III. With reference to Hamilton's doctrine, that consciousness of a perception involves consciousness of the object perceived, Mill endeavours to transfix him on the horns of this dilemma: If this is admitted, then Hamilton must give up one great part of his philosophy; if this is denied, then he must give up another great part of his philosophy.

Explain this, and give your own opinion.

IV. Discriminate between Hamilton's two *Absolute Utilities* of the study of Mental Philosophy. In his exposition of the one of these he develops an argument for the existence of God. State the argument. Show how it is related to the discussion out of which it springs, and state under which division of his philosophy it comes.

V. (*a*) State and explain Hamilton's theory of Pleasure and Pain, and criticise it.

(*b*) In connection with this Mill objects to the unphilosophical procedure of framing a hypothesis which leaves part of the phenomenon unexplained, and then taking refuge, as regards the residuum, in the inexplicability of all ultimate facts. Examine whether Mill is or is not chargeable with a similar procedure in his Psychological theory of the Belief in Mind.

VI. How does Mill explain the genesis of our idea of extension as involving co-existence from sensations that are not co-existing but successive?

VII. (*a*) Hamilton distinguishes between two kinds of necessities of thought, *viz.*, *negative* and *positive*. Explain this distinction, and give the reasoning by which he seeks to bring the judgment of Causality under the former.

(*b*) State Mill's explanation of necessities of thought.

VIII. Hamilton distinguishes between two things, *viz.*, *The fact of consciousness*, and *the veracity of consciousness*. He then argues against Hypothetical Realists that they unphilosophically impugn the veracity of consciousness. To this Mill replies by bringing in another consideration, *viz.*, *the interpretation of consciousness*.

Distinguish between these three things, and bring out the force of Hamilton's argument and Mill's reply

IX. Distinguish between Fatalism and Determinism. Of which of these is the doctrine of Free Will the antithesis? On what principle does Hamilton *speculatively* hold Determinism and practically hold Free Will?

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

SPENCER'S PRINCIPLES OF PSYCHOLOGY.

I. Give a concise statement of all the essential points in Mr Spencer's theory as to the substance of mind. Criticise his views. Compare them with Mill's theory of mind as laid down in the *Examination of Sir W. Hamilton*, and with the theory of an entity or substance numerically distinct from the mental manifestations.

II. It is generally admitted that the senses of Touch, Hearing and Sight rank higher intellectually than any of the other senses, (*a*) What explanation, if any, would a Transcendentalist give of this fact? (*b*) How do Experientialists generally and Mr. Spencer in particular account for it? (*c*) Compare critically the several explanations.

In one respect the sense of smell exhibits a relatively high intellectual character.

Point out the respect referred to and explain the phenomenon.

What conjectures may be formed as to the effect of the high development of the sense of smell on the general consciousness of some of the lower animals?

III. What is memory and how has it originated (*a*) as a biological faculty (*b*) as a psychological faculty?

What, according to Mr. Spencer, are the conditions favourable and unfavourable to memory, and how do they operate?

State and explain the law which governs the destruction of memory as old age advances. What light does this law throw upon the growth of memory?

IV. What are the following according to Mr. Spencer—Sensation, Perception, Idea, Emotion?

How are they related to the development of the nerve structures?

V. State and explain what Mr. Spencer calls "The Law of Intelligence." What bearing has this law on what is known as necessary truth and more generally on the transcendental view of the origin of knowledge?

How is the law related to Mr. Spencer's own doctrine of the Universal Postulate?

VI. How are egoistic, altruistic and ego-altruistic sentiments distinguished from each other? Is this a natural or an artificial classification of emotions?

What different views have been held with respect to the origin of altruistic sentiments? Criticize Mr. Spencer's view.

VII. Discuss from the evolutionist point of view the question—whether the mind can attend to a plurality of objects at one and the same time. Give with reasons your own opinion.

VIII. In connexion with the theory of heredity applied to mind state accurately what it is that is transmitted and the *modus operandi* of the transmission.

Examine the grounds on which it is alleged that hereditary transmission helps to reconcile Transcendentalism and Experientalism.

To what extent, think you, will the contending parties be prepared to accept it as a basis of reconciliation?

IX. In a review of Mr. Spencer's system of Philosophy it was described as "Atheism, Pantheism, Materialism."

Describe those three doctrines. Point out the features in Mr. Spencer's philosophy which you may suppose the reviewer had in his mind in applying those epithets respectively, and examine the legitimacy of their application.

X. "Not a step can be taken towards the truth that our states of consciousness are the only things we can know, without tacitly or avowedly postulating an unknown something beyond consciousness. The proposition that whatever we feel has an existence which is relative to ourselves only, cannot be proved, nay cannot even be intelligibly expressed, without asserting, directly or by implication, an external existence which is not relative to ourselves"

"More certain than the Relativity of Relations as we conceive them, is the existence of Non-relative Forms to which they refer; since proof of the first involves perpetual assumption of the last There is some ontological order whence arises the phenomenal order we know as Space; there is some ontological order whence arises the phenomenal order we know as Time; and there is some ontological nexus whence arises the phenomenal relation we know as Difference."

(*a*) State in your own words, and as briefly as possible, the precise meaning of the above extracts.

(*b*) Criticise them.

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

LOGIC. (I.)

I. It is said that we owe the Categories to the opposition made by Aristotle to Plato's Realism of Universals. Explain.

Kant and Mill have criticised Aristotle's classification. Review their criticisms.

II. What is Mill's famous theory of "The argument from particulars," and what is the theory of the Function of the Syllogism that he deduces from it? Examine these theories with special reference to the following:—

(*a*) It is remarked by a critic: "It is *not* because A, B, and C are α but it is because in them some element β is α, and because again we find β in D, that we argue, *therefore* D is α .. It is not the collection of particular facts, it is the general impression one gets from these facts which is really the *sine qua non* of reasoning; and it is that from which we really go to our result."

(*b*) Mill himself says, "The *dictum de omni* should be retained as the fundamental axiom of the logic of mere consistency, often called Formal Logic.

III. (*a*) Is Mill's doctrine that "names are names of things and not of our ideas of things," consistent with (1) his idealism, (2) the existence of such terms as centaur and mermaid?

(*b*) If as Hamilton holds a judgment is a comparison of concepts, what is the meaning of (1) "all x is some y"; (2) "John is mortal"?

Why does Mill object to the employment of the term judgment to denote a proposition?

(*c*) What are the grounds on which Hamilton professes "to effect the scientific and final abolition of the Fourth Figure"?

(*e*) Mill founds his classification of Fallacies jointly on two principles of division. What are they? Why does he adopt such an apparently illogical procedure?

IV. Why does Mill start the question, "whether cause precedes the effect"?; and how does he answer it? Does the doctrine of conservation of energy throw any light on the question?

Criticise Mill's conception of (1) First cause, (2) Permanent cause, (3) unconditionality.

V. State the Law of uniformity of Nature, and point out clearly whether, and how far, according to Mill, the "Methods" *postulate* or *prove*, the *universality* of this law.

VI Explain or account for the following:—

(*a*) "Logic treats of second intensions as applied to the first.

(*b*) "The Epicureans had a special objection to the law of excluded middle."

(*c*) "The temple which Lord Bacon purified was not that of nature herself, but the temple of mind?"

(*d*) It is said that "the chasm of separation" theory of natural kinds, so familiar to readers of Mill, is being very gradually abandoned.

(*e*) Mill calls the theory of "Original contract," a "double sophism."

(*f*) "In Political Economy" says Cairnes "hypothesis is never used as a help towards the discovery of ultimate causes and laws; just as in physical investigation it is never used as a substitute for experiment."

VII. "There are and can exist but two ways of investigating and discovering truth. The one hurries on rapidly from the senses and particulars to the most general axioms, and from them, as principles and their supposed indisputable truth, derives and discovers the intermediate axioms. This is the way now in use. The other constructs its axioms from the senses and particulars, by ascending continually and gradually, till it finally arrives at the most general axioms, which is the true but unattempted way." *Bacon—Nov. Org. Bk. I. Aph. XIX.*

Criticise the above by pointing out, (1) wherein the error of ancient speculation really consisted; (2) whether the step-by-step generalisation, recommended, is (*a*) theoretically necessary and (*b*) borne out, as to its practical workability, by the accredited methods of modern science.

VIII. Criticise the following:—

(*a*) 'In Grotes' opinion the proof of the axiom of contradiction, like all other axioms, is inductive.'

(*b*) "It is absurd to measure the value of a loaf of bread by its cost of production, because bread is worth more to a man when he is hungry than it is just after his dinner."

(*c*) "An institution cannot be bad when a country has prospered under it."

(*d*) "Any action of Government for the relief of famine will be a setting aside of the laws of Political Economy."

(*e*) "Once believe in a God and miracles are not incredible."

TUESDAY, 22ND JANUARY, 2 TO 5 P.M.

LOGIC. (II.)

I. It is remarked by a critic that Professor Jevons's book is strong where Mr. J. S. Mill's is weak and weak where his is strong.

Can you justify this remark?

II. State Jevons's fundamental formula of inference. What is the warrant, psychological or logical, for its legitimacy?

How would he reduce to his fundamental formula arguments such as the following:—

(*a*) A is greater than B, B than C, therefore A is greater than C; (*b*) A was before B, B before C, therefore A was before C. Estimate the value of such reductions considered as contributions to the analysis of Inference.

III. Jevons insists strongly on the non-exclusive character of disjunctives. What logical conveniences result from taking disjunctives in this sense, and what parts of his theory will have to be altered if the opposite view be adopted?

Jevons objects to the form $A = B + b$. Is the form that he prefers free from the objection which he urges against this?

Reduce by Jevons's method 'Festino' and prove that, if $A = B + C + cD$, then $a = bcd$.

IV. What according to Jevons is the general problem which inductive reasoning has to solve, and what is his method of solution?

(*N.B.*)—In answering this question bring out the following points:

(1) The bearing of the Theory of Combinations on the inductive problem;

(2) The functions served by hypothesis in the inductive process;

(3) The place which Jevons would assign to Mill's Experimental methods;

(4) The nature and foundation of the uncertainty which attaches to all inductive inferences.

V. Explain:—

(*a*) 'The principle of contradiction,' says Boole 'is a consequence of the fundamental law of thought whose expression is $x^2 = x$';

(*b*) 'To throw ten heads in succession with a coin is no more unlikely than to throw any other particular succession of heads and tails.'

(*c*) 'De Morgan has pointed out that there are no less than four modos in which one event may seem to follow or to be connected with another, without being really so.'

(*d*) 'Twice two is two unless we take care that the second two has a different meaning from the first.' Then, what becomes of the principle of substitution in Arithmetic?

VI. (*a*) 'The doctrine of terms,' says Jevons 'is strictly speaking for the most part extralogical.' With what view in your opinion should terms be discussed in logic?

(*b*) Jevons regards proper names to be connotative. Is this necessitated by his theory?

(*c*) The impossibility of converting O says Jevons is a serious blot in the ancient logic. What according to ancient logic was the problem of conversion?

(*d*) 'No doubt,' says Jevons 'there are many strange things not dreamt of in our philosophy, but this is no reason why we should believe every strange thing which is reported to have happened.' What can you gather from Jevons's teaching as to what should be our attitude towards such reports. State and support your own position.

VII. Compare and contrast the views of Mill and Jevons as regards classification, with special reference to

(*a*) the object served by it;

(*b*) the distinction between artificial and natural systems of classification;

(*c*) the relation of abstraction to generalisation;

(*d*) the importance of Types.

What is the bearing of the Logical Alphabet on the problem of classification?

VIII. Give an example to illustrate each of the following:—

(1) An exception to the rule that from negative premises no conclusion can be drawn;

(2) The Differential method of eliminating Error;
(3) 'False facts in science are more mischievous than false theories';
(4) 'Collective experiments';
(5) 'There is nothing whatever in the nature of things to prevent the existence of two variations which should apparently follow the same law, and yet have no connexion with each other.' Does this invalidate the method of concomitant variations?
(6) Prediction by inversion of cause and effect;
(7) Facts known only by theory;
(8) 'The different kinds of exceptional phenomena.'

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

EPICUREANISM.

I. How do you account for the *practical* turn which philosophy took after the times of Plato and Aristotle?

II. Point out the relations of Epicureanism (1) to the philosophies of Plato and Aristotle, (2) to the social life of Greece.

How was the spread of Epicureanism promoted (1) by the personal characteristics of its founder and adherents, (2) by the doctrinal features of the system, and (3) by the circumstances of the Greek and Roman world?

III. Prof. Ferrier gives the following as what he calls "a broad, and general, and fundamental conception of the distinctive characteristics of Stoicism and Epicureanism."

"According to Stoicism, it is the happiness of thought, of reason, the satisfaction of the spirit, which is the great end of man. According to Epicureanism, it is the happiness of the feelings, of sensation, of the flesh, which is the great end of man."

"Stoicism inculcates that rational happiness, the happiness of reason, spiritual felicity, is the great end of man; their happiness is, perfection; that the life of reason, the life according to the spirit, being the life of nature, is the means to this end, and that the rational life is the virtuous life. On the other hand, Epicureanism inculcates that sensational happiness, the happiness of the feelings, the satisfaction of the passions, bodily felicity, is the great end of man; that

the life of agreeable sensations being the life according to nature, is the means by which this end is attained; and that thus the life of prudent pleasure is the virtuous life."

Do you regard the above as a correct statement of the Epicurean doctrine? Support your answer by references to the teaching of Epicurus and his followers.

How does the Epicurean view of pleasure differ from that of the Cyrenaics in the ancient world and from that of the Selfish Moralists of modern days?

IV. The coincidence or identity of Virtue and Happiness was held alike by the Epicurean and the Stoic. What different interpretations did the two schools give to it, and with which, if with either, do you feel disposed to agree? State your reasons.

V. What proof did Epicurus give that Pleasure is the highest good? Is the proposition capable of any other proof than that supplied by him?

VI. What position did Friendship occupy in the teaching of Epicurus, and how far did it modify the essential character of his system? On what was Friendship based?

[*Answer any two, but not more than two, of the following.*]

VII. What is the relation of the individual to society according to Epicureanism, and how far was society supposed to contribute to the securing for each individual the kind of life which it was the aim of the doctrine to inculcate? Was Epicurus in these respects in accord with contemporary opinion or not?

VIII. "For if from Jove, or Jove's associates, flow.
The roar tremendous, shattering heaven's high arch;
If these, at will, the flaming bolt direct,—
Why, scapes the guilty form his vengeful stroke,
Nor falls, transpierced, a monument to man?
Or, rather, why, beneath the fiery storm,
Sinks he unconscious of committed crime,
Void of all blame, yet victim to its ire?"—*Lucretius VI*, 392-40.

How did the Epicureans get over the difficulty here alluded to? How did their opinions on this subject affect the spread of their doctrines? How is the difficulty dealt with by the Ancients generally, and how is it disposed of by the orthodox moralists of the present day?

IX. What were the chief objections urged against Epicureanism in the Greek and Roman world? How far were these objections based on facts and how far on misrepresentations and misunderstandings? How and with what success did the Epicureans meet them?

X. Regarding Epicureanism not as a complete scheme of Morality, but only as a partial truth, what do you consider the most important contributions it has made towards such a complete Morality?

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

SIDGWICK'S METHODS OF ETHICS.

I. What do you understand by a Method of Ethics? If *The Methods of Ethics* is neither a dogmatic theory of Ethics nor a history of such theories, what precisely is it?

II. There are two conflicting theories of the relation of Desire to Pleasure. State these and argue the question as between them. Has the settlement of this question any ethical bearing?

III. How many ultimate reasons of conduct, capable of giving rise to separate ethical methods, are there *primâ facie* found to be? To what smaller number are these finally reducible, and by what process of elimination?

IV. State the fundamental principle of Egoistic Hedonism. Of the various methods which this principle gives rise to, all are found to be unworkable except one, and even to that one there are serious drawbacks. State the various methods, and the objections to the one that is least objectionable.

V. (*a*) Distinguish between the three different forms of 'Intuitionism.'

(*b*) In his discussion of Philosophical Intuitionism, Sidgwick classifies the various moral axioms that have been propounded into *sham* and *real*. Give examples of the former and all the latter.

VI. What is the "fundamental paradox of Hedonism?" Is there an analogous paradox of Intuitionism? If so, what is it?

VII. Dr. Martineau has attempted to construct an ethical method on the principle of "rank of motives." Explain this, and examine whether it is workable.

VIII. If we define Utilitarianism as the theory of morals that makes "greatest happiness" the ultimate principle of right conduct; it is obvious that, in order that this principle may yield a complete ethical method, the following points must be cleared up, *viz.*, (1) The possibility and nature of a Hedonistic Calculus, (2) The area of the distribution of happiness, (3) The principle of distribution. Give Sidgwick's conclusions on these points.

IX. Sidgwick finds that the common antithesis between Intuitionism and Utilitarianism must be given up. (*a*) Give briefly the reasoning by which this conclusion is reached. (*b*) Examine whether, in thus assimilating the two theories, Sidgwick makes Intuitionism experiential, or Utilitarianism intuitional.

X. Sidgwick comes to the conclusion that Utilitarian Duty cannot be reconciled with the greatest happiness of the individual, on empirical grounds.

(*a*) Point out what difficulty or dilemma is caused by this conclusion. (*b*) If in this dilemma the Utilitarian falls back on the existence of God as a means of reconciliation, examine whether the existence of God may be assumed on purely ethical grounds.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

POLITICAL ECONOMY.

I. (*a*) Define the sense in which Mill employs the term "wealth." How does Cairnes condition "value"? In what respect may Mill's definition of "wealth" be regarded as unsatisfactory, and what may be supplied in its place?

(*b*) A patentee charges a royalty to all who use his patent. Is the "patent" wealth?

(*c*) Are (1) Senate House peons, (2) Ship-captains 'productive labourers'?

II. (*a*) Distinguish between Fixed and Circulating Capital.

(*b*) A lends B £10,000 on the security of a landed estate. Of this sum B lays out (1) £3,000 in improving the productive powers of the estate; (2) £500 in paying

labourers to build a swimming-bath; (3) £500 in the purchase of jewelry; and (4) the remainder in the purchase of Consols to provide a marriage-settlement for his daughter. How will the aggregate capital in the country be affected by these several transactions?

III. (*a*) Mr. Longe (quoted in Cairnes) says "The demand for commodities which can only be got by labour is as much a demand for labour as a demand for beef is a demand for bullocks." Point out the fallacy herein contained, and enunciate Mill's proposition embodying the true state of the case.

(*b*) Examine the bearings of this proposition in relation to (1) the Indian system of "advances," and (2) the encouragement lately given by the Supreme Government to local manufactures.

IV. Show how 'rents' are, or may be, affected by (1) increase of population; (2) rate of profit; (3) cost of labour.

V. A *connoisseur* offers £1,000 a picture to an artist who is willing to sell it for this sum, but a wealthier man, fond of vulgar display, outbids him and pays £1,200 for it. Examine the elements that have entered into the determination of the value of the 'picture.'

VI. (*a*) Bacon, in his Essays, says with respect to foreign trade "whatsoever is somewhere gotten is somewhere lost." Point out the fallacy here, and illustrate by a specific example.

(*b*) In the last twenty-one years the Imports into the United Kingdom have exceeded the Exports by £1650,000,000. Does this indicate a healthy state of trade? What *a priori* explanation would you give for this heavy "balance of trade"?

(*c*) Supposing that a large flow of gold were to enter the Bank of England Reserve—larger that what is required for purposes of trade—by what self-acting process will this disappear?

VII. (*a*) Explain the statement "the income-tax, to a certain extent, encourages spending and discourages saving." *Fawcett.*

(b) Examine the qualities of the Imperial License Tax as tested by the "canons of taxation." Select any two trades and examine the "incidence" of the taxation.

VIII. Taking into consideration the existing economic condition of India, examine the relative advantages of the two methods of raising money—by loans or by taxation—to meet the expenses of Government incurred (1) in conducting a frontier war, and (2) in constructing the canals in the Godaveri District.

IX. Point out the difference of effect upon prices of bills and bank-notes respectively. To what legislation did this consideration give rise? Has this legislation been proved to be efficacious?

X. Discuss the statement that "the substitution of paper for metallic currency is a national gain; any further increase of paper beyond this is but a form of robbery."

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

POLITICAL ECONOMY.

I. (a) Distinguish between *normal value* and *market value*.

(b) In what class of commodities is normal value most variable, and why?

(c) Does a liability to sudden and great changes in the market value, involve of necessity a liability to a variable normal value? Give clearly the reasons on which you base your answer.

II. Criticising Mill's analysis of cost of production, Cairnes remarks that if that analysis be true then the cost of producing commodities, taking industry as a whole, is a constant condition. Can you answer this objection from Mill's standpoint?

III. In what cases does reciprocal demand operate in the determination of normal value, and how does it differ (1) in the mode of its operation, and (2) in the character of its results, from cost of production?

IV. Explain Mill's theory of the *Wages fund*, and state the arguments adduced by Thornton which led Mill ultimately to abandon it.

A recent critic (Westminster Review, October 1883,) has said that Cairnes "went on modifying and refining the theory so as to make it look less like a truism than it really was." Examine Cairnes's theory of the Wages fund so as (1) to determine whether or not this criticism upon it is fair, and (2) to show whether it is open to the objections which Mill regarded as demolishing his own.

V. (*a*) Distinguish between *real* wages and *money* wages.

(*b*) Are wages always proportional to the productiveness of industry?

(*c*) On what grounds, and in what sense, is it usually held that neither can a general rise in wages influence prices, nor a general rise in prices influence wages?

VI. Trace clearly the relations of wages and prices as influenced (*a*) by an increase of foreign trade, and (*b*) by a fall in the value of money.

VII. (*a*) What is the "One condition essential to, and sufficient for," the existence of international trade?

(*b*) Within what limitations may wages affect an international trade?

VIII. If a nation be largely indebted to foreign countries, and has in consequence a given sum to pay as interest yearly; then since this sum can only in the last resort be paid in produce, the payment of her debt involves the opening of a larger market and the creation of a larger demand for the commodities she produces. It consequently stimulates her productive energy and in so far benefits her trade.

Is this argument valid? If not, point out its defect. If it is valid, may we go a step further and say—"Therefore foreign liabilities are a national boon"?

IX. "What a nation is interested in is not in having its prices high, but in having its gold cheap." Explain this passage and show that it is possible to have one of these conditions without the other.

X. During the reign of Henry IV. an act was passed (7 Hy. IV, Cap. 17) intended to prevent children going into trades and to retain them as agricultural labourers.

The "Statute of Apprentices" (5 Elizabeth, Cap. 4) was intended to prevent any person exercising any trade or handicraft unless he had been brought up to it while young. It provided (1) that the

term of apprenticeship to all trades must be seven years at least; (2) that no one should be apprenticed who was above the age of twenty-one years; (3) that in agricultural pursuits the term of apprenticeship must not terminate before the age of twenty-one years, and in all other trades not before the age of twenty-four years.

Discuss from a national point of view the economical bearing of these enactments.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

HISTORY OF EGYPT.

I. (*a*) The Nile must always occupy a conspicuous place in any history of Egypt. Why?

(*b*) Show how the physical characteristics of Egypt influenced its history.

II. Enumerate the chief sources of information on which Egyptian History is based, and give a short account of the various systems of writing prevailing amongst the early Egyptians.

III. Advance reasons in support of the view that the Egyptians were of Asiatic and not of African Negro descent.

IV. Give a brief account of the Egyptians of earliest times in connection with morals and modes of living.

V. What were the chief peculiarities of Egyptian architecture and construction? Show how these were greatly influenced by, if not the out-growth of the religion of the country.

VI. Give an account of the early religion of the Egyptians and of its doctrines with reference to the nature of God and a future state. Show that while on the surface the religion might appear to be polytheistic, still there was an essential monotheism underlying it. What modifications were made in the worship during the twelfth dynasty and in the eighteenth and nineteenth dynasties?

VII. What was the political state of Egypt previous to its conquest by the Hyksos (Shepherd Kings). What was the nature of their early rule? What benefits did Egypt receive from their rule, and what influences are they supposed to have exerted on the language and religion of the country?

VIII. Wherein did the civilisation of Egypt under the Theban kings of the 11th and 12th dynasties differ from that under the Memphitic kings? What conquests were made by the former and what great works of utility were constructed by them?

IX. Trace the growth of the Egyptian power under Rameses II, and III.

X. What led to the decline of Egypt after the death of Rameses III? Wherein is this decline most seen? What steps were subsequently taken to re-establish and consolidate the Egyptian power?

XI. Give a brief account of the wars of Egypt with Nabopolasar and Nebuchadnezzar and state *fully* the events that led to the invasion and overthrow of Egypt by the Persians.

FRIDAY, 25TH JANUARY, 2 TO 5 P.M.

CONSTITUTIONAL HISTORY OF ENGLAND FROM THE CONQUEST TO THE ACCESSION OF HENRY VII.

I. What exact bearing had the elective character of the Crown upon the political development of the English people? What constitutional doctrine was established in the accession of Edward IV? What part does the Crown play in the present day in the British Constitution?

II. What sources gave rise to Feudalism? At what period, under what circumstances, and to what extent, did the Feudal principle prevail in England? What did it contribute to the growth of civilisation; and why did it pass away?

III. How did the Conqueror modify ecclesiastical relations in England; and what consequences followed the change?

To what extent have Ecclesiastical and Papal power dominated in the government of England?

IV. What systems have mainly contributed to the growth of the principle of representation? Contrast the constitution and rights of the national assembly as it existed at the close of the 12th and 13th centuries respectively.

Relate in few words the proceedings of the most important parliaments held during the reign of Edward III.

V. What is the distinctive character of the English Nobility? How did Baronage become an Estate of the realm?

Show which was the more constitutional in its practices—the House of Lancaster or the House of York.

VI. What was the original constitution of such cities as London, York, and Exeter? What growth took place in the administration of English provincial towns during the Norman period? Sketch briefly the leading Municipal changes that took place under the Plantagenets.

VII. Illustrate the truth of the following passage:—"There are periods at which the history of its wars is the true history of the people." (Stubbs.)

VIII. Give some account of the political and social condition of England as reflected in the literature of the Plantagenet era.

IX. State briefly (1) the part played in Constitutional History by Bishop Roger of Salisbury; Hubert Walter, Archbishop of Canterbury; and John Duke of Bedford; (2) with dates, the constitutional significance of the Assize of Clarendon; the Mise of Amiens; the Ordinances; the Statutes of Westminster; the re-enacting of the Statutes of Provisors.

SATURDAY, 26TH JANUARY, 10 A.M. TO 1 P.M.

ESSAY.

Latent Mental Modifications.

SATURDAY, 26TH JANUARY, 2 TO 5 P.M.

ESSAY.

The economic aspects of the establishment of Agricultural Banks in India.

B. L. DEGREE EXAMINATION, 1884.

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

EVIDENCE.

I. What are the limitations as to the privilege

(a) Of Judges and Magistrates.

(b) Of communications during marriage.

(c) Of professional communications.

Upon what principle does the limitation as to the last named rest? Wherein does it differ from the English law.

II. What is meant by "burthen of proof"?

Upon whom does the burthen of proof lie in each of the following cases, and in each case why?—

(a) A, a pedlar, is charged with trading without a license: A denies absence of the license.

(b) B is charged with murder: B pleads grave and sudden provocation.

(c) C, a cestui que trust, just emerging from minority sues D his master, impeaching his *bona fides.*

III. When will statements irrelevant as being confessions made to police officers become relevant? Give an instance of each such contingency.

Criticise the following ruling:—

"It is proposed to prove and file as evidence against the accused a confession made by him to an influential Zemindar who happened to be a bystander on the occasion of the alleged commission of the offence, under the inducement of a promise to be allowed to see his (the accused's) wife and children. It is asserted that this confession was repeated to the Chaplain of the prison, admittedly in consequence of spiritual exhortations, and under the solemn promise of secrecy. I hold: he evidence inadmissible."

IV. A, in the course of a prosecution of B at the High Court Sessions for criminal misappropriation, tenders the deposition of C,

a witness resident in Black Town, whose evidence had been taken by a commission issued by the Joint Magistrate of Chingleput in a case in which D had prosecuted and convicted B for assault.

Upon the facts stated, the presiding Judge rejects the evidence.

Support the rejection upon as many distinct grounds as you can.

V. How does the Indian Act and the English Law respectively treat of—

(*a*) reputation in connection with the proof of private right;

(*b*) statements made by deceased persons which relate to the existence of any relationship?

VI. What, if any, are the exceptions, statutable or otherwise, to the following rules of law—

(*a*) Evidence of the character of parties to a suit is not admissible?

(*b*) Strangers are not bound by, and cannot take advantage of, estoppel?

(*c*) Instruments under seal are by law conclusively presumed to have been given for consideration?

(*d*) A prosecutor, under English law, cannot go into particular cases of misconduct in offering evidence of the bad character of the accused?

VII. Distinguish between "*res inter alios actæ*," and "second-hand" evidence. Give an instance of each.

VIII. Comment upon the following rulings:—

(*a*) In an action for the wrongful conversion of a bill of exchange, counsel for the Plaintiff tenders secondary evidence of the document without having given preliminary notice to produce. Counsel for the defendant objects. The Court sustains the objection.

(*b*) In an action for trover Plaintiff stated he had verbally requested Defendant to deliver up certain property and had simultaneously served upon him a notice in writing to the same effect. The Court, ruling that the writing should be produced, held the oral evidence inadmissible.

IX. (*a*) Y sues Z for the price of goods sold and delivered to Z. X says he delivered the goods to Z.

Evidence is offered to show that on a previous occasion X had said he had not delivered the goods to Z.

Is the evidence admissible or not? Give the reason for your answer.

(*b*) C, a witness, is asked whether he was not dismissed from a situation for dishonesty. He denies it. Evidence is tendered to show he was so dismissed.

Is this evidence admissible or not?

Upon what principle of law does its admissibility or inadmissibility depend?

X. (*a*) L hires lodgings of M and gives him a card on which is written "Rooms Rs. 100 a month."

Can L prove a verbal agreement that these terms included board? State the reason for your answer.

(*b*) A and B make a contract in writing in the nature of an escrow. The document is left with B, who sues A upon it.

A attempts to prove the circumstances under which it was so left with B.

Can A do so, or not? Give your reasons.

XI. State the principle upon which the force of presumptions depends.

Give an instance of

(*a*) a presumption of fact;
(*b*) a presumption of law;
(*c*) a mixed presumption;
(*d*) a rebuttable presumption;
(*e*) a conclusive presumption.

What are the presumptions a Court will show as to

(1) power of attorney;
(2) Government maps, and maps drawn for a suit;
(3) documents not produced after notice?

XII. Advise briefly upon the evidence necessary to be adduced by the Plaintiff—

(*a*) in an action for malicious prosecution;
(*b*) in a prosecution for bigamy;
and by the defendant;
(*c*) in an action for defamation;
(*d*) in a prosecution for wrongful restraint.

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

CONTRACTS.

I. Define the following terms "Promise," "Consideration," "Coercion," and "Partnership," and point out the distinction if any between the English and Indian law as to what constitutes "Coercion."

II. A sues B upon a registered Promissory Note for Rs. 1,000, dated the 1st of January 1871 executed by B in favour of his deceased widowed sister the mother of A. B pleads absence of consideration for the note. Is the defence valid?

III. A makes an offer by letter to B to sell his house at Tanjore for Rs. 500. B, after despatching his letter accepting the offer unconditionally, dies. On B's death C, his legal representative, telegraphs to A revoking B's acceptance, and the telegram reaches A prior to B's letter. Can A compel C to purchase the house?

IV. A borrows during his minority Rs. 1,000 from B; but shortly after attaining the age of majority he at the request of B executes a Promissory Note in B's favour for the said amount with the interest due on it. Can B maintain a suit on the Promissory Note against A?

V. A, B and C are jointly and severally indebted to D in the sum of Rs. 1,000. D brings a suit against A and B for the amount and obtains a decree against them. In execution of the decree he realizes the sum of Rs. 500. He then sues C for the balance of Rs. 500. Is the suit maintainable?

VI. State the rules of law in regard to the appropriation of payments made by a debtor to a creditor to whom he owes more than one debt.

A the managing member of a Hindu family who was indebted to B in three distinct sums of Rs. 200, 300, and 100, dies, leaving him surviving C his undivided brother. C subsequent to A's death makes two payments of Rs. 100 and 150 respectively to B without gaining any intimation as to their application to any of the said debts. B applies the said payments to the debt of Rs. 300, which is not proved to be a binding debt as against C. B sues C for the balance of Rs. 350. It is established that the other two debts of Rs. 200 and 100 were contracted for a necessary family purpose. C contends that the payments should be applied only to these two debts and

that he is liable only for the balance of Rs. 50. How will you decide the suit?

VII. What lien has a seller upon goods sold by him for the prices of such goods?

VIII. In what cases can a vendor of goods who is not the rightful owner of such goods confer a valid title upon a purchaser?

IX. What are essential for a valid ratification by a person of contracts entered into for him by another person?

X. B the agent of A in a matter within the scope of his authority deals as such agent with a third party C and receives from him in advance Rs. 10,000 which he misappropriates to his own use without the knowledge or sanction of A. B's agency terminates, and in a settlement of accounts between A and B, the said item of Rs. 10,000 is not included. Who is liable to C for the amount?

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

TORTS.

I. When does an action lie for negligence? Explain the principle on which you would allow or over-rule the plea of contributory negligence.

II. In an action for defamation, defendant pleads the privilege of a witness in a Court of Justice. The plaintiff replies that the statement complained of was falsely and maliciously made by the defendant with the intention of injuring his reputation. Is the plea good? If it is, what is the extent of the privilege claimed by the defendant?

III. What facts must a plaintiff allege to maintain an action (1) for malicious prosecution; (2) for slander of title?

IV. What is "false imprisonment"?

A warrant was issued by a competent Court to the Nazir of that Court for the arrest of AB. When the Nazir proceeded to execute the warrant, he found that AB was privileged from arrest. Nevertheless, he maliciously arrested AB. Is a suit against the Nazir for false imprisonment maintainable?

V. Under what circumstances can a principal be sued for the malicious prosecution made by his agent?

A suit is brought against A for the malicious prosecution made by his agent (B). When B began the prosecution, he did not consult A. A came to know of the prosecution, and attended the Magistrate's Court on the day of trial to watch the proceedings. Can A be made liable?

VI. In what cases is a principal liable for the fraud of his agent?

VII. There was a dispute between A and B regarding B's right of way on A's compound. A gave a parol license to B to exercise his right pending the settlement of the dispute by arbitration. When the matter was before the arbitrator, A locked up the gate of his compound so as to prevent B's ingress. B broke open the gate and exercised the right claimed by him. Can A bring an action for trespass?

VIII. Explain the distinction between an action for the wrongful detention of goods and an action for conversion of goods. What evidence must a plaintiff adduce to support an action for conversion?

IX. Explain "damage without injury" and "Remoteness of damage." Illustrate your answer by reference to decided cases.

X. In what cases can a Court award "prospective damages" and "vindictive damages?"

TUESDAY, 22ND JANUARY, 2 TO 5 P.M.

CRIMINAL LAW.

I. Explain the difference between extortion and robbery, and between kidnapping and abduction.

II. When is an unlawful act excused by reason of accident or of intoxication?

III. What is the liability of an abettor when the act done is different from the act abetted?

IV. In what cases is a breach of contract made an offence by the Penal Code?

V. What are the ingredients of the offences of (1) disobedience to the lawful order of a public servant; (2) fabrication of false evidence; (3) criminal misappropriation; (4) criminal trespass?

VI. A is charged with mischief. The facts proved are that there was fighting in the street, that A, after fighting some time, separated himself from his assailants and threw a stone against one of them, and that the stone missed the person aimed at, but broke the complainant's window. Is the evidence sufficient to bring the offence home to A ?

VII. A threatened a father with the prosecution of his son for an unnatural offence, with the intention of making the father execute to him a bond for Rs. 100. Has A committed any offence ? Would it alter the nature of the offence if the father, to avoid the disgrace, executed the bond to A ?

VIII. A had a right of way on B's field. B intending to deprive A of his right, obstructed the way, and effectually prevented him from using the way. Is B guilty of any offence ?

IX. A without any provocation assaulted B. B had heart disease, but A was ignorant of it. The assault caused B's death. A did not intend B's death; neither did he intend to cause such bodily injury as was likely or sufficient in the ordinary course of nature to cause B's death. For what offence if any can A be convicted ?

X. A magistrate who disposed of a case of theft directed that certain jewels produced before him as stolen property be delivered to the owner. The magistrate's clerk whose duty it was to carry out the order delivered the jewels to the owner and received from him a present of Rs. 10. It was not a gratification for doing or forbearing to do any official act or for showing or forbearing to show any favour or disfavor to any person. Is the clerk chargeable with any offence ?

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

PROCEDURE.

I. In what ways other than trial of, and adjudication on, the whole case by the Court may a suit once instituted be brought to an end ?

II. How are the rights of third parties (*i.e.* persons who are not parties to the proceeding) recognized and provided for in the laws of procedure relating to (1) attachment of a judgment-debtor's property; (2) res judicata; (3) execution of a search-warrant; (4) cases of death of a party to a suit.

III. In what cases is a person triable for an offence by a Court within the territorial limits of whose jurisdiction the offence was not committed?

IV. A, a usufructuary mortgagee, sues B, his mortgagor, to recover the money due under the mortgage. B's defence is a claim to a set-off of a sum as compensation for damage to the property mortgaged caused by acts of waste committed by A. The Court of first instance accepts B's written statement containing this defence, though not tendered till after the first hearing of the suit, and decides the suit in favor of the defendant's plea. On appeal, A contends that the decree of the Court of first instance ought to be reversed, first, because B's counter-claim is not a claim of such a nature as can be set off against A's claim, and secondly, because the said written statement was not presented at the proper time. Is A entitled to succeed on both, or either, of these contentions, and why?

V. How may a judgment-debtor who is imprisoned for a judgment-debt become entitled to his discharge from jail?

VI. By what provisions does the Code of Civil Procedure guard against the production of forged or false documents as evidence in a suit?

VII. Draw the plaint in full in a suit brought by A, as administrator of B, for recovery of a balance of money due on a hundi drawn in favor of B and accepted by X as partner in the firm of X, Y, and Z.

VIII. Are private rights made to give way to public interests or exigencies by any, and, if so, what, provisions of the Code of Civil Procedure as to what property is exempt from attachment and sale in execution of a decree?

IX. To what extent (state the substance of the provisions in the Codes respectively) have Criminal Courts powers which are in the nature of powers properly belonging to Civil Courts, *viz.*, powers of awarding civil or private relief; and the Civil Courts powers in the nature of those which properly belong to Criminal Courts?

X. A is arrested without a warrant on a charge of voluntarily causing hurt to deter a public servant from his duty. B is on trial on two charges, first, of voluntarily causing grievous hurt, and secondly, of voluntarily causing hurt by a dangerous weapon, and compounds both offences, and is then acquitted by the Court. C is tried for four offences of the same nature committed within one year,

in four separate trials on the same day by the same Court. D is before a second-class Magistrate on a charge of criminal breach of trust by a carrier, and is committed for trial by the Court of Session on the ground that he (the second-class Magistrate) has not power to try the case, and bail is refused. E is tried summarily by the District Magistrate on a charge of abetment of house-trespass and sentenced to four months' imprisonment and a fine of 300 Rupees. Are there any, and, if so, what, errors of procedure in these cases?

XI. Draw a charge of giving false evidence; a charge of adultery; a charge of defamation; and a charge of robbery after a previous conviction of counterfeiting coin.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

EQUITY JURISPRUDENCE.

I. A Hindoo devises house A which is his self-acquisition to his wife, and house B which is the Stridhanam of his wife to his son. What are the rights of the widow and of the son respectively in the houses A and B, assuming that the testator dealt with the house B under the belief that it was his own property?

II. What are the liabilities of Co-trustees to the beneficiary, and to one another in respect of breach of trust committed by all jointly or by one of them?

III. Explain the equitable doctrine of "Satisfaction" and illustrate it by examples.

IV. What is meant by a defective execution of a Power, and in what cases and on what principle does a Court of Equity aid such defective execution? Illustrate your answer by examples.

V. In what cases may a defendant plead in a Court of Equity that he is a purchaser for valuable consideration without notice? Illustrate your answer by examples of cases in which such plea can be raised in Indian Courts?

VI. In what cases will a Court of Equity re-open either wholly or in part an account which has once been settled between the parties?

VII. State in what cases and on what principle Courts of Equity

grant relief against penalties and forfeitures, and how far Indian Courts give relief in respect of mortgages by way of conditional sale.

It is stipulated in a certain public undertaking that share-holders shall forfeit their shares on non-payment of calls. Will relief be granted, and if so on what terms against such forfeiture?

VIII. What is the distinction between Legal and Equitable Assets?

IX. What are the rules regulating the appointment of a new trustee when the office of trustee becomes vacant?

X. Explain the equitable doctrine of marshalling between creditors and marshalling securities, and illustrate their application to cases arising in India among Hindoos.

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

HINDU AND MAHOMEDAN LAW.

I. (*a*) Trace the origin of dowry. What are the rules which limit the selection of persons for marriage?

(*b*) State the views of the English and of the Hindu law respectively as to the legal results of mental incapacity in the husband with reference to the marriage, and the reason on which either view rests.

II. A is a leper: B a minor under the Court of Wards: C a widow in Western India under the age of puberty.

A adopts in his lifetime; C in her's.

B leaves a written authority which is acted upon after his death.

What in each case would be the powers of the adopter?

And what the rights of each adopted son?

III. State the legal effect of an adoption by a widow in each of the following cases:—

(*a*) upon her own estate when she adopts as widow to her husband:

(*b*) upon her own estate when she adopts as mother of her husband's son:

(*c*) upon the estate of her daughters' son when she adopts with the consent of the sapinda.

IV. Discuss the effect of change of religion

(*a*) by the father, (*b*) by the mother, (*c*) by the infant itself, as to the guardianship of such infant.

What is the law as to the order of guardianship

(*a*) of legitimate,

(*b*) of illegitimate children?

V. What is meant by *Apratibandha* and *Sapratibandha?* Give an illustration of each.

Mention the various methods of acquiring self-acquisition. Apply the doctrine of self-acquisition to the following cases:—

(*a*) A, a Zemindar in Madras, dies issueless, with considerable savings of income leaving a widow and brother. Who would inherit and why?

(*b*) C, a Poligar, dies leaving debts which do not bind the family, but leaving also (1) property purchased with savings from his money, and (2) savings handed down to him from previous Poligars.

Can C's creditors proceed against both, or either, and which class of property mentioned in (1) and (2)?

VI. A, a Hindu under the Mitakshara, has three children, D. E. F., by his senior wife, and two G. H., by his junior wife. On his deathbed A executes a document dividing himself from his five children, and dividing five children his *inter se*, apportioning to each a specific share of his property, but giving G. and H. share slightly larger than those given to D. E. F.

In a suit by D to set aside the partition deed, the following questions are raised:—

(1) is the deed bad as having been made on a deathbed, and savouring of a will?

(2) can a father divide his sons as among themselves without consulting them, or against their consent?

(3) is a partition deed legal which makes a distribution not strictly impartial?

How would you hold on each point, and why?

VII. A, an incontinent widow, claims maintenance from her husband's family.

B, an incontinent widow, sues to succeed to the estate of her issueless husband.

C, an incontinent widow, in possession, is sued in ejectment by her husband's brother.

D, an incontinent daughter in Bengal, E an incontinent daughter in Bombay, and F an incontinent daughter in Allahabad sue to recover their father's estate.

G, an incontinent female sues as heiress of a female.

State what in each case would be the legal effect of the admitted incontinency.

VIII. What are the respective rights of the junior male and female members of a Malabar family?

Define "Otti" and "kanam." What additional incident is attached to the former as compared with the latter?

IX. When should debts acknowledged, under the Mahomedan Law, upon a deathbed, be paid and when not?

What is the rule when one of the joint sureties dies without paying?

X. In whom is the offspring of an invalid marriage established? In what cases may an infant wife annul the marriage contract on attaining majority?

XI. In what cases does an abatement in legacies occur? What are the obstacles to a resumption of a gift?

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

GENERAL JURISPRUDENCE.

I. Define 'General Jurisprudence' and 'Particular Jurisprudence,' and criticise these terms.

II. Exhibit a plan of systematic arrangement and division of the whole body of the municipal law of a State; giving sub-divisions as well as the main divisions.

III. Define, and distinguish, Municipal Law, International Law, Natural Law, Moral Law.

IV. What difference, if any, is there between a man's legal power to enforce a right offensively and his legal power to enforce a right defensively?

V. What are the essential constituents of injuries or wrongs? Show how, in cases of Insanity, Minority, and the other causes of exemption from liability, these, or some of these, essentials are, or are presumed by the law to be, absent.

VI. Distinguish between relative duties and absolute duties, giving examples of each.

VII. How many laws be created otherwise than through Legislative enactment? Mention any controversy as to any of the modes of origination of laws, and the arguments for and against its being regarded as a means through which laws are originated.

VIII. When does ratification of a previous invalid transaction validate it, and when not? Give examples.

IX. Distinguish vested from contingent rights; fungible from non-fungible things; conditions precedent from conditions subsequent; judicial from extra-judicial remedies.

X. Define 'intention'; 'negligence'; 'crime'; 'status'; 'privilegium'; 'condominium.'

M. L. DEGREE EXAMINATION, 1884.

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

EVIDENCE.

I. (*a*) A sued to recover possession of a house which he alleged he had purchased under a deed of sale from B to whom he had subsequently let the house. B admitted the execution of the deed of sale; but he set up a contemporaneous oral agreement with A to the effect that the deed was to be merely a security for the payment of a certain sum of money due by B to A, and alleged that a considerable portion of the money so secured had been repaid to A.

(*b*) A enters into an agreement with B by an indenture of charter-party. A sues B on the alleged subsequent parol agreement for the use of the ship for a period which was to elapse before the charter-party attached.

Is the oral evidence set up in each of these cases respectively admissible or not? Give your reasons.

II. A Plaintiff sues as being reversioner of S next after J, who was missing, to cancel a mortgage made by S's widow, in so far as the mortgage affected his reversionary right, and to have those rights declared. J had not been heard of for eight or nine years.

What would be your ruling as to the presumption of J's death and for what reason?

Would that ruling differ, and if so in what way and on what grounds, if the Plaintiff in lieu of seeking to protect his reversionary interest had been suing to succeed to J's property by inheritance?

III. What is the difference between the English law and the Indian Act as to the liability of a witness to answer a question tending to criminate him, and as to the consequences of his answering or not answering such question? What has the Madras Full Bench ruled upon this point?

Compare this liability with the liability or otherwise of a witness under English and Indian law, to produce a document tending to criminate him.

IV. (*a*) B is charged with having defrauded his employers by entering in their accounts a sum less than that which he in fact received. B's defence is that the entry was purely accidental. The prosecution tenders evidence to show that the accounts contain other false entries in the handwriting, and in favour of B, for which B is not charged.

How would the English and the Indian law respectively treat the evidence offered—and on what grounds ?

(*b*) C is charged with uttering a forged note at Madras: D for uttering counterfeit coin in London. Evidence is tendered as to what C said on other occasions when he uttered other forged notes and of exclamations by D when he on other occasions uttered counterfeit coin.

Would the evidence be receivable in both, or either, and which case ? State the reasons for your answer.

V. At the trial of Z at the High Court Sessions for murder, the prosecution proposes to produce as evidence against him, *inter alia*,

(*a*) a passage in a letter written by him ;

(*b*) a confession made by A while in the custody of the Police ;

(*c*) a repetition of this confession to the Chaplain of the prison, made under the solemn promise of secrecy, and the influence of spiritual exhortations ;

(*d*) Witnesses to depose to the bad character of Z ;

(*e*) a previous conviction of Z for riot ;

(*f*) the fact that a decree in Z's favour in a suit brought by him for the recovery of property had been set aside on the ground that Z had obtained it fraudulently ;

(*g*) a deposition made by a witness resident in Black Town which had been taken on a Commission issued by the Joint Magistrate of Chingleput in a trial wherein Z had been convicted of assault.

Is the prosecution entitled to produce and prove all, or any and which, of these various items of evidence?

May such proof be unconditional, or conditional? and if conditional, under what conditions?

Give in each case your reason for the rejection or advisability of each item.

VI. State the rules of evidence which depend upon the difference of patent and latent ambiguities. Give an illustration of

(*a*) a patent,

(*b*) a latent ambiguity,

and state what is the rule of law as to the admissibility of extrinsic evidence when in a document, the description of a thing is partly applicable and partly inapplicable to each of several subjects,

(*a*) for the purpose of ascertaining to which of such subject the language applies,

(*b*) for the purpose of proving the author's declaration of intention.

VII. During the progress of a trial it becomes necessary to prove what is the law of France as to the forms obligatory for the due execution of a will. A witness is tendered whose knowledge on this point has been derived from a study only of that law.

Is his opinion on the point admissible

(*a*) under the English law,

(*b*) under the Evidence Act?

Give your reasons.

VIII. State the different presumptions which the law notices as evidencing rights or facts, and state briefly the reasons why they are severally judicially recognized.

What effect has a strong presumption of fact upon the burthen of proof? Give an instance.

IX. A sues to establish his right to succeed to an impartible Zemindary. His counsel proposes to prove statements made many years prior to the institution of the suit as to the sonship of the Plaintiff.

(*a*) by an illegitimate son of the deceased Zemindar;

(*b*) by the deceased's family *guru*;

(*c*) by the *Vakil* of the deceased.

All these persons are dead at the time of trial. Are all, or any and which of these statements admissible under the English and the Indian law respectively? Give your reasons.

X. Apply the principles of the law of privilege to the two cases below:—

(*a*) Counsel for the defence asks the attorney for the prosecutor whether pending proceedings on the indictment his client had not observed to him that he would give a large sum to have the accused hanged.

Can the answer be elicited?

(*b*) X, a Counsel, attends before a Magistrate on behalf of Y, charged with embezzlement. A book is produced by the prosecution in which the accused, contrary to his duty, had omitted to make a certain entry. On a subsequent examination, X finds the book to contain the entry. The accused afterwards brings an action for malicious prosecution. The defendant wishes to examine X as to the fact that the entry was not in the book at the date of the first examination.

Can he do so?

Is there any, and what, difference in this point between the English and Indian law?

Distinguish between the privilege attaching to the disclosure of affairs of state and of official communications.

XI. (*a*) An entry in the book of a deceased attorney of charges paid for a lease as drawn on a certain day is admissible to prove that the lease was drawn on that day.

(*b*) An entry of the receipt of rates by the deceased clerk of a Collector, who was duly appointed, is admissible to prove the payment of the rates.

Upon what principle is each of the above sound law? To what general rule are both exceptions? Before each is admissible, what must be previously proved? What proof is additionally necessary in (*b*) that is unnecessary in (*a*)?

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

CONTRACTS.

I. What are the provisions of the Indian Contract Act with regard to the acceptance and revocation of proposals?

II. "It is not lawful to form a convention of a private nature with an indeterminate person." What are the agreements that are supposed to be open to this objection? Explain how they fulfil the legal requirements of an agreement.

III. In what cases can a party to an unlawful agreement repudiate the transaction, and claim back money paid by him to the other party under that agreement?

IV. The plaintiffs advertised for tenders for the supply of stores for a certain period. The defendant sent in a tender to supply the stores required for the period named, at certain fixed prices, "in such quantities as the plaintiffs' agent might require from time to time." The plaintiffs accepted the tender. They gave an order to the defendant which he refused to execute, alleging there was no consideration, and no mutuality. Can the plaintiffs sue for breach of contract? Give the reasons for your answer.

V. A, a merchant in Madras, knew B as a respectable tender at Alleppy. C, another tender at Alleppy, and a man of no credit, corresponded with A under a name and address closely resembling those of B and ordered certain goods. A consigned the goods to Alleppy to the address given by C, believing that he was executing B's order. C did not pay the value of the goods. He obtained possession, and sold the goods to D, a *bona fide* purchaser for value. After the sale to D, A learnt that a fraud had been practised upon him by C. Can A sue D for the value of the goods? Give your reasons.

VI. On what principle are compromises recognized as binding agreements?

(*a*) A threatened B with a civil suit, although he knew that he had no claim against him. B entered into a compromise with A. Is the compromise enforceable?

VII. "When an article is warranted, the vender might, on discovering the breach of warranty, rescind the contract, return the chattel, and if he had paid the price, receive it back." Is this a cor-

rect exposition of the law on the subject? If not, what remedy has the vender? How does the Indian Contract Act meet the case?

VIII. A entered into a contract with B for labor and materials, to be supplied to A's workshop by way of repairs and alterations. A agreed to pay B a certain amount for the entire work, but the amount was payable by instalments at certain stages of the work. B did some work and A paid him two instalments. Before B could complete the work, the building was accidently destroyed by fire and the performance of the work was rendered impossible. Can A bring a suit to recover back the instalments paid by him? Give your reasons.

IX. A dealt with B knowing that he was an agent, but he did not know who the principal was. What remedy has A against the unnamed principal when discovered? What is the leading case on the point?

X. What is the measure of damages in the undermentioned cases?—

(*a*) A sued B for breach of warranty. A bought a cow from B who warranted that the animal was free from disease, though he knew at the time that it was suffering from an infectious disease. A kept the cow with his other cows. All the animals including the cow sold by B died. Would it make any difference if B knew that A was a farmer and that he bought the cow for use in his farm?

(*b*) A lessee sued his landlord for breach of covenant for quiet enjoyment. When the lessee took possession of the premises, he found that other lessees claimed a right of way over it under a grant from his landlord. He sued them and the lessor to restrain them from exercising the right claimed by them. They succeeded in establishing their right, whereupon he sued the lessor.

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

TORTS AND CRIMINAL LAW.

I. What are the conditions of the valid ratification of a tort?

II. Explain and illustrate the maxim "Want of skill causes responsibility.

III. What are the modes in which easements may be extinguished or suspended, and in what cases may they be revived?

IV. What is the liability of the master for the wrongful act of his servant in the undermentioned cases? Give the reasons for your answer.

(*a*) The Municipal Commissioners of a town entrusted the management of their drainage works to A B They gave him most extensive powers and they did not interfere with him. With a view to make the drains more efficient, A B cut down certain trees that stood on the property of the Commissioners near the drainage works, and he wrongfully entered on the plaintiff's land and cut down a few trees that impeded the flow of the drains. The plaintiff sued the Municipal Commissioners for A B's trespass.

(*b*) A B erected a factory and carried on certain works for his profit by his agent. The men employed to carry on the works, did their work in such a manner as to cause public nuisance.

V. The plaintiff employed in a factory sustained injuries from the conduct of his fellow-workmen. What facts must he prove to maintain an action against the master?

VI. When does an action lie for conversion of goods? What defences are available in such action?

(*a*) A, a timber merchant in Palghaut, employed B as his broker in Madras. In consequence of a telegram from B, A forwarded a quantity of timber by Railway to Madras. A sent to C in Madras a delivery order, which made the timber deliverable to A or C, and at the same time he sent an invoice to C which stated "sold to C through B as broker for buyer and seller." C did not order the timber and did not employ B as broker. On receipt of the invoice and order, C called for an explanation from B. B said it was a mistake and requested C to endorse the order to him, promising to return the timber to A. C endorsed the order. B took possession of the timber and absconded. Has A

any remedy against C? Give the reasons for your answer.

VII. What is the measure of damages in the following cases?—

(a) A suit is brought against a Nazir for negligently allowing a judgment-debtor to escape from his custody. The judgment-debtor is a pauper; but he is the only son of a wealthy old man, and if the son had remained in custody, the father would have paid the debt or portion of it.

(b) A suit is brought against a Railway Company for non-delivery of goods carried by them within a reasonable time. The plaintiff informed the Company that he wanted to sell his goods on a particular day, in a particular market. The goods were delivered after that day, and the plaintiff had to wait a few days in the station to which he had consigned his goods to obtain delivery. Would it make any difference if the Company did not know the plaintiff's purpose in making the consignment?

(c) A suit is brought for damages for obstruction of light to the plaintiff's bed-room. It is found that, notwithstanding the obstruction, there is sufficient light to use the room as a bed-room. If the plaintiff wished to use it as a study, the light is insufficient.

VIII. Explain the distinction between extortion and robbery, extortion and criminal intimidation, and house-trespass and house-breaking.

IX. How does the code define abetment, and what punishments does it prescribe?

(1) When the offence abetted is committed.
(2) When one offence is abetted and another committed.
(3) When no offence is committed.

X. A intended to forge a bond purporting to be a bond executed by B. In pursuance of his plan, he instigated C to buy a stamp paper from a stamp vendor and to say that he was B. Accordingly C gave his name to the stamp vendor as B and gave B's father's name and address. These particulars were endorsed on the

stamp paper and the paper was sold to C who gave it up to A. What offence, if any, has A committed?

XI. A bought certain goods of a shopkeeper and he gave him a cheque upon the Madras Bank for payment. The shopkeeper allowed him to remove the goods. A had an account with the Madras Bank; but when he gave the cheque, he knew that he had no balance at the Bank. The cheque presented by the shopkeeper for payment was dishonoured by the Bank. Has A committed any offence? Would it make any difference if A then knew that some cheques previously drawn by him upon the Bank after his account was closed had been dishonoured?

TUESDAY, 22ND JANUARY, 2 TO 5 P.M.

HINDU AND MUHAMMADAN LAW.

I. Advise, with the reasons for your opinion, upon the following cases:—

(a) G, on his deathbed, his son L then living, gave his wife C power to adopt a son in the event of L's decease, and to make successive adoptions in the event of future adopted sons dying. C adopted R after the death of L, who left a widow him surviving. R takes possession of all the property, and is sued for it by a distant male relative of G.

Has R a good defence to the suit, or not?

(b) B, a widow, succeeds her son D as heiress, and then adopts a minor M to her late husband with the consent of the sapindas. B declines to put M in possession on his attaining his majority. M sues.

Can M make out a case?

II. What is the law in Madras on the one hand, and in Bengal and the North-West Provinces on the other, as to the right of succession of an adopted son?

(a) to the stridhanam of,

(b) to the property inherited by, his adoptive mother?

III. What is meant by *Apratibandha* and *Sapratibandha*? Give an illustration of each.

Mention the various methods of acquiring self-acquisition. What has the Madras High Court decided as to "gains by science?" What has the Privy Council thrown out on the same subject?

IV Examine, and state, the law as to the right of a member of an undivided family to an account; and apply it to the following case:—

A widow in Bengal sued for a partition of the property and as incidental thereto for the dissolution of a banking partnership, and that the defendant, the manager should render an account of the estate of the common ancestor, and of the banking business.

V. What is the son's liability?

(*a*) as surety for his father,

(*b*) to repay a sum paid by his father as a nuptial present

(*c*) for fines not based on contract incurred by his father.

On what grounds does his liability or non-liability for (*b*) and (*c*) rest? Is there any and what analogy in English law with reference to this liability or non-liability as to the case put in (*c*)?

State briefly the present law as to the son's liability for his father's debts generally, and cite the leading cases on the subject.

VI. What is the radical difference as to the succession of *bandhus* in the system of the Daya Bhaga and the Mitakshara respectively?

Compare the law under the two systems as to the position of

(*a*) a sister's son,

(*b*) the son of a niece,

and the interpretation which the Western lawyer and the Mitakshara respectively places upon the word "sapinda." Give the most prominent instance of the difference in interpretation.

VII. Trace the special descent of property inherited and of stridhanam according to the Mayukha in the following case:—

Property descended from V. to her son B. and from him to his daughter Y. On Y's death, her mother's brother L and her father's sister T, each claimed to carry on a suit in which they were engaged in reference to the property.

Who would be entitled——and why?

How would the Mitakshara decide the rival claims?

VIII. What is necessary to validate alienations by a karnavan—

(a) in the case of gifts or sales,

(b) in the case of mortgages and simple bonds?

What is the "anandravan?"

What is the presumption as to the liability of family property for debts contracted by an anandravan? And what is the exception to that rule?

IX. What are the rights of a kanam mortgagor and mortgagee respectively? What effect upon a kanam contract has non-payment of earnest money?

Define Jemn.

X. What are the circumstances which exclude the succession of paternal female ancestors under the Sunnia law of inheritance, and which of them is excepted from the exclusion?

XI. What effect has a deathbed divorce under the Shia doctrine?

XII. What contingencies are likely to arise on an absolute sale to one person during the existence of a conditional sale to another?

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

THE LAW OF REAL AND PERSONAL PROPERTY.

I. What is the distinction between corporeal and incorporeal hereditaments, and what formerly was the difference in their mode of transfer?

II. In what cases is an Instrument in writing necessary in India for Transfer of Property?

III. Is a lessee bound by covenants in a lease after assignment by him of the lease?

IV. What is the difference if any between the English and Indian Law in respect of the liability of a lessee to pay rent during the term of the lease after the subject-matter of the lease has been destroyed or rendered substantially and permanently unfit for the purposes for which it has been let?

V. What was the origin of copyholds, and can they be entailed?

VI. What are the restrictions imposed by the Thelluson Act against the accumulation of income, what led to the Act, and what is the difference between the provisions of that Act and the corresponding provisions of the Indian Succession Act?

VII. How does a contingent remainder differ from a vested remainder and an executory interest, and how is it now protected by statute from destruction?

VIII. A trustee sells some property vested in him for sale. What covenant for title is the purchaser entitled to?

IX. A buys a house from B for Rs. 1,000 believing in good faith that B is the owner of the house and spends an additional sum of Rs. 800 in improving the house. C who is the real owner of the house brings a suit in ejectment against A. What are the rights of A and C respectively in the house and in the improvements effected by A?

X. Explain and illustrate the principle of law that conditions or restraints inconsistent with and repugnant to any estate or interest to which they are annexed are void.

XI. A Native Christian family which has been following the Hindoo law consisted of three undivided brothers A, B and C. A died in 1865 leaving two sons D and E and a widow F. B died in 1867 leaving a son G who was adopted in 1864 a widow H and a daughter L. C died in 1870 leaving M a son who was adopted in 1869 and a widow N. E died in 1871 leaving O and P his widows. On E's death disputes arise in regard to the division of the family estate, the surviving members both male and female being D, F, G, H, L, M, N, O and P. Distribute the estate among such of the survivors as are entitled to any share in the property.

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

PROCEDURE.

I. When can a Court allow the plea of set-off? What is the effect of allowing such plea? What is the form of decree in such case?

II. What is an interpleader suit? Describe the procedure to be followed in the trial of such suit.

III. How is attachment to be made when the property sought to be attached is (*a*) debt due to the debtor; (*b*) salary of the debtor who is a public officer; (*c*) debtor's property deposited in a public office; (*d*) decree obtained by the debtor in another Court.

IV. What is the mode of executing a decree for delivery of specific moveable property?

V. When can a decree be sent to another Court for execution, and what documents must be sent by the Court that passed the decree to enable the other Court to execute it?

VI. Define "cognizable offence," "warrant case," and "summons case." Describe the procedure to be followed in the trial of summons cases.

VII. When may a person be tried at one trial for different offences committed by him?

VIII. In what cases does previous acquittal or conviction bar a subsequent trial?

IX. What is the procedure to be followed if a Magistrate, after recording the whole or part of the evidence in a trial, ceases to be a Magistrate?

X. What are the powers of a Sessions Court to amend or alter the charge against a prisoner or to accept a commitment by a Magistrate not duly empowered in that behalf?

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

EQUITY JURISPRUDENCE.

I. A Hindoo governed by the law of Mitakshara owns fifteen acres of land in the District of Tanjore and ten acres of land in Ĕṉa-land. He dies leaving a will by which the former property is devised to his first-born son A and the latter to his son B. The will is not attested by witnesses. What are the rights of A and B respectively in the said properties?

II. How may a valid trust in relation to lands and moveable property in the Presidency of Madras be created in favour of religious or charitable endowments and other purposes?

III. How far is a Hindoo minor competent or incompetent to be a trustee and to execute trusts?

IV. How does a Court of Equity deal with cases of fraudulent or illusory execution of Powers? Cite the Leading Case on the subject and illustrate your answer by examples.

V. State fully, citing the Leading Case on the point, the doctrine of Courts of Equity in regard to catching bargains with heirs, reversioners, or expectants.

VI. What are the cases in which specific performance of contracts cannot be decreed, and who are the persons in whose favour they cannot be specifically enforced?

VII. State fully the principles of Equity Jurisprudence laid down in the following cases:—

Ellison *v.* Ellison.
Keech *v.* Sandford.
Ward *v.* Turner.
Stapilten *v.* Stapilten.
Earl of Oxford's case.

VIII. Is the distinction between Legal and Equitable Assets of any practical importance to creditors? Give a succinct account of the former and present state of Equity law in regard to "Priority of debts" in the Administration of Assets.

IX. What was the effect of Locke King's Act, and how has that Act been amended?

X. What is the wife's equity to a settlement? Against whom is such equity enforcible, out of what property can she claim it, and what will defeat or bar such right?

XI. What is the equitable doctrine of "reconversion" and can a remainder-man by his election effect such a reconversion?

XII. In what respects does the English doctrine of "election" differ from the corresponding principles in Roman Law.

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

MERCANTILE AND MARITIME LAW.

I. Define bottomry-bond; necessaries; demurrage; primage; jettison.

II. What are the duties of an owner of a vessel—

(*a*) As to the seaworthiness of his ship;

(*b*) As to the selection of a master;

(c) As to receipt of cargo on board his ship?

and what are his liabilities for—

(d) Damage to goods, at Common Law;

(e) Robbery under Statute Law?

III. What is a master's remedy for wages; and what is the period up to which he can claim them? What application has the old rule, "freight is the mother of wages" to the salary of a master?

IV. Mention the principal particulars which the statutory agreement with seamen must contain. What are the rights of a seaman against an owner who discharges him before the commencement of the voyage, without any fault on the part of the seaman, and against the seaman's consent?

V. Distinguish between "General" and "Particular Average." When does the former arise? By what law are general average losses calculated in the absence of any special contract? What is the extent of the shipowner's lien for general average?

VI. What effect has the insertion of the words "Interest or no interest" in a policy of insurance? What is the lien of a broker upon the policy he effects

(a) When he is employed immediately by the assured?

(b) When he is employed by an intermediate agent whom he knows to be such?

VII. A is the owner of goods in a ship's bottom. B is a mortgagee of the ship herself. In the course of a voyage to Burmah the ship springs a leak, and the mate sells A's goods to raise money for her repairs. In a suit by A to make the ship liable, B intervenes and asserts his right to be preferential.

Decide between the two, and give the reasons for your decision.

VIII. C, having a bill payable to himself or order, endorses it in blank, leaving a vacant space above his signature, and sends it to J. S. who gets it accepted. The money not being paid, C sues the acceptor who objects that the action should have been brought by J. S. into whose hands the bill had passed. How would you rule, and on what principle?

IX. What is meant by notice of dishonour? Mention any five cases in which it is not necessary.

X. What are the presumptions under the Negotiable Instrumental Act—

(a) as to the time of acceptance;
(b) as to consideration;
(c) as to the stamp of a lost cheque?

Wherein does the first presumption differ, if at all, from the presumption provided for by the Evidence Act?

XI. Define "Stoppage in Transitu" How is it defeated?

(a) A the vendor of goods, makes a demand upon B their carrier for delivery thereof before the regular determination of the transit. B wrongfully refuses to comply. Is the vendor's right of stoppage gone, or not?

(b) Would the Vendor's right be affected, and if so to what extent, (1) by process of foreign attachment at the suit of a creditor of the Vendee, (2) by the Vendee selling the goods to a third and innocent party. What rule of law controls the latter?

XII. What is necessary to effectuate the assignment of an apprentice? How does such an assignment operate between the Master and the transferee? Can an infant bind himself as an apprentice?

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

CONSTITUTIONAL HISTORY.

I Define "prerogative." State what were the principal of the prerogatives exercised by the English Crown from the time of the Norman Conquest, and their abuses, and show from the history of those prerogatives the gradual decadence of the Royal power in that respect.

II. Give a succinct account of the struggle between the Crown and the Commons in regard to arbitrary taxation.

III. Trace the origin and development of the jurisdiction and powers of the Court of Chancery.

IV. Criticise the government of Ireland between the Irish War of 1641 and that of 1689, and estimate the causes of the latter war.

V. By what means were military forces raised in England before the time when a standing army was instituted?

VI. Compare and contrast the political effects of the dominant religions in England before and after the Reformation respectively.

VII. Define the position and functions of the House of Lords, and estimate its value as a factor in the English Constitution.

VIII. What are the principal arguments *pro* and *con* adducible on the question of the expediency of reducing the laws of a country to a systematic Code?

IX. Note the successive changes in the constitution of the government of British India from, and including, the year 1773 to, and including, the year 1833 ["Government" is here meant to include the Government in India as well as the Government in England.]

FRIDAY, 25TH JANUARY, 2 TO 5 P.M.

PUBLIC INTERNATIONAL LAW.

I. What is the state of International Law on the question as to who has the property in goods shipped by a neutral consignor to an enemy consignee, or *vice versâ*, after they have been delivered by the consignor to the carrier; and how does the law in those cases differ from the law which prevails in time of peace?

II. How may a State acquire an inchoate title, and how a definitive title, to territory unappropriated by a civilized or semi-civilized State?

III. What are the duties and rights of a neutral State in regard to (1) sales by it of munitions of war in time of war between other States; (2) permitting the passage through its territory of troops belonging to one of two belligerent States; (3) admitting and retaining such troops within its territory?

IV. Criticise, from the point of view of International Law, the theories which have been held, that a State cannot have proprietary rights, and that a State cannot alienate part of its dominions without the consent of the inhabitants of the territory intended to be alienated.

V. What is the right of angary, and on what general principle does it rest? Do you consider that that principle justifies the existence of the right? Give the reason, or reasons, for your opinion.

VI. What are the extent and limits of the jurisdiction of a State over ships belonging to it on the high seas? Is this jurisdiction rightly accounted for by the doctrine of the territoriality of vessels; and if not, why not, and what is the real foundation of the jurisdiction?

VII. What is the position of a State, in regard to the question of the right of postliminium, when its territory having been occupied by a State with which it is at war, is liberated by a State with which it is not in alliance? Illustrate your answer by stating, and commenting on, the leading case on this point.

VIII. Who come within the definition of "spies"? State the principal rules of International Law affecting spies.

IX. Suppose France to be at war with China, England being neutral; and that an English vessel bound from London to San Francisco breaks the blockade by the French of a Chinese harbour, and proceeds on her voyage to San Francisco, and thence returns to London. What is the extent of the liability of the English vessel to capture by the French?

X. What is the effect upon the trade between one State and another of the out-break and carrying on of war between one of them and a third State?

XI. What are the implied conditions upon which the continuance of the obligatory force of treaties is dependent?

XII. What may be urged for and against a claim by a State through whose territory the upper part of a river flows, to the right to navigate the remaining portion of the river which flows, between its own frontier and the sea, through the territory of another State?

SATURDAY, 26TH JANUARY, 10 A.M. TO 1 P.M.

PRIVATE INTERNATIONAL LAW.

I. State the rules laid down in the Indian Succession Act as to the Domicil of a posthumous child, of an illegitimate child, of a wife, of a married minor, and of a person employed in Her Majesty's Civil Service in India.

II. How far do English Courts recognize the legitimacy of a person born out of lawful wedlock? Notice the conflicting decisions on the point.

III. What is the effect of a foreign divorce on an English marriage?

IV. (*a*) A buys goods of B in London on credit and takes delivery of them. Afterwards A obtains a discharge under the English Bankruptcy laws. He then settles in Madras as a merchant. Can B sue A in the High Court of Madras?

(*b*) C in London draws a bill on D in Madras payable to E D the drawee refuses to accept the bill. C becomes a bankrupt in London and obtains a discharge there. Can E sue C in an Indian Court, supposing C to be now residing within the jurisdiction of that Court?

(*c*) M buys goods in Madras of N on credit. M afterwards goes to England, and while there, he obtains a discharge under the Bankruptcy law. Can N sue M in Madras for the price of the goods?

V. Discuss the question as to the merger or non-merger of the original cause of action in a Foreign Judgment.

A and B being jointly but not jointly and severally indebted on a Promissory Note to C, the latter obtains a decree against A in the District Court of Kandy, but the decree is not executed. C subsequently brings a suit in the District Court of Madura against A and B jointly on the Promissory Note. Is the suit maintainable?

VI. (*a*) A person domiciled in England, dies intestate, leaving real property in Scotland. The heir who is one of the next of kin claims a share of the personal property in addition to the real estate in Scotland. Discuss the validity of his claim.

(*b*) A person domiciled in England has lands in Scotland upon which he grants a heritable bond to secure a debt contracted in England. Discuss whether on his death the said debt should be paid out of his real property in Scotland or out of his personalty?

VII. Discuss the questions (*a*) whether the authority of a guardian over the person of his ward is local and confined to the place of his domicil or extends everywhere; (*b*) whether the authority of the guardian over the property of his ward is local or extends everywhere; and (*c*) whether a guardian has authority to change the domicil of his ward?

VIII. The plaintiff and defendant in an original suit in the High Court of Madras are both foreigners. Plaintiff obtains decree, and in execution of the decree, the defendant is arrested. An application is made for his discharge on the ground that in the country of his domicil in which the debt was contracted there is no imprisonment for debt. How will you dispose of the application?

IX. In what respects is personalty governed by the *lex rei sitæ*, and in what respects by the law of domicil of the owner? Is there any case in which it is governed by the *lex loci actus*?

SATURDAY, 26TH JANUARY, 2 TO 5 P.M.

ROMAN LAW.

I. Describe concisely the judicial system of the Romans during the Republic, and note the principal points of resemblance and difference between it and the English judicial system.

II. Show from the classification of wrongs or injuries in Roman law, whether that classification is based on inherent differences in the nature of wrongs, or on differences in the forms of action by which redress was obtainable from the wrongdoer?

III. How did the Roman law relating to acquisition of property by prescription differ from the English law?

IV. Define *pignus*, and state what were the rights and duties of the creditor and debitor respectively, under a contract of *pignus*.

V. Give an account of the origin and development of the law relating to *fidei commissa*; and point out wherein *fidei commissa* differed from trusts in English law.

VI. What rights of action which existed in favor of, or against, a man, by the Roman law, were, and what were not, exercisable respectively by or against his heirs?

VII. To what extent were obligations transferable, by the Roman law; and what were the extent and limits of the rights of transferees of obligations? Compare that law with the present law of India on this subject.

VIII. How were valid gifts *inter vivos* made by the Roman law; and under what circumstances were gifts revocable?

IX. Contrast the *patria potestas* with the power of the father over and in respect of his children by the English law.

X. What were the modes of acquiring property in moveables by accession in the Roman law?

XI. How did *emphyteusis* differ from *dominium*, and from *superficies*, respectively?

FIRST L.M.S. DEGREE EXAMINATION, 1883.*

MONDAY, 2ND JULY, 10 A.M. TO 1 P.M.

CHEMISTRY.

I. Describe the process of filling and graduating a common mercurial thermometer. What special advantages does mercury possess for thermometric purposes?

II. Describe the construction of a Daniel's cell, and give an account of the chemical changes which take place during the circulation of the current.

III. How may sulphuretted hydrogen be prepared, and what are its properties? Give equations for the changes which occur when this gas is passed through the following solutions:—lead nitrate, potassic arsenite, ferric chloride, zinc sulphate in presence of sodic acetate.

IV. How many compounds of oxygen and nitrogen are known; how are they severally prepared, and what are the properties of each?

V. How are the oxides of the elements classified; what are the characteristic properties of each group?

VI. Classify the following Acids according to their basicity:—orthophosphoric, pyrophosphoric, metaphosphoric, sulphuric, nitric chloric, acetic and tartaric acids.

VII. How may citric and tartaric acids be distinguished from one another?

VIII. If some solid white grains were found adhering to the mucous membrane of the stomach of a person suspected to have been poisoned, how would you determine whether they consisted of arsenious acid, or not?

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* The dates on which the Medical Examinations were held in 1883 differed somewhat from those given in the Bye-laws.

TUESDAY, 3RD JULY, 10 A.M. TO 1 P.M.

ANATOMY.

I. Mention the principal points in which the second and seventh Cervical Vertebræ differ from those between them.

II. Give the attachments of the following muscles:—

Obliquus Internus,
Quadratus Lumborum,
Pectoralis Major,
Gluteus Medius,

and describe their several uses.

III. How is the Inferior Maxillary Nerve formed? Enumerate its principal branches and their destination.

IV. How is the circle of Willis formed? Enumerate the parts of the brain included within it, in order from before backward.

V. Describe the Cæcum and the Ileo-Cæcal Valve. Mention the principal parts in contact with this portion of Intestine.

VI. Enumerate the parts entering into the formation of the root of the left Lung, and give their relations to one another.

WEDNESDAY, 4TH JULY, 10 A.M. TO 1 P.M.

MATERIA MEDICA AND PHARMACY.

I. Give the properties of Pareira radix with its officinal preparations and their doses

II. Give the physical and medicinal properties, and officinal preparations of Oleum Terebinthinæ.

III. Give the properties of Calcis Hydras with its officinal preparations, their uses and doses.

IV. Describe briefly the diseased conditions in which Bromide of Potash has been found beneficial, giving the doses.

V. Give the preparations of Morphiæ Hydrochloras with the strength and dose of each. To how much Powder, Extract, and Tincture of Opium is one grain of Morphia Hydrochloras equivalent?

THURSDAY, 5TH JULY, 10 A.M. TO 1 P.M.

PHYSIOLOGY.

I. Describe the act of Deglutition; mention in the order of their action the muscles engaged; and their nerve supply.

II. Describe the structure of a lobule of a lung; state the changes which the air and blood respectively undergo in the respiration.

III. Mention the average period of eruption of the temporary and permanent teeth; describe the structure of a tooth.

IV. Describe the course and minute structure of a renatubule; what functions have been ascribed to its several parts.

V. Adipose tissue—1st, state its development and structure; 2nd, its uses in the economy; 3rd, the circumstances causing variations in its amount.

VI. Striated muscle—1st, describe its structure; 2nd, state the physical and chemical changes which accompany the act of contraction.

SECOND L.M.S. DEGREE EXAMINATION, 1883.

MONDAY, 16TH JULY, 10 A.M. TO 1 P.M.

MEDICINE.

I. Given a patient with blood passing through the anus:—What questions would you ask and observations would you make in order to ascertain its origin? Enumerate the possible causes of such bleeding, and give the treatment.

II. Distinguish croupous from catarrhal pneumonia as regards signs and symptoms, tissues affected and the changes produced in them, prognosis and treatment.

III. When called to see a sick man state in detail why you (*a*) observe him carefully, (*b*) look at his tongue, (*c*) feel his pulse, (*d*) take his temperature, and (*e*) examine his urine.

IV. Describe the cirrhotic form of Bright's disease, giving its causes, the anatomical characters of its different stages, the symptoms, complications, diagnosis, prognosis, and treatment.

TUESDAY, 17TH JULY, 10 A.M. TO 1 P.M.

SURGERY AND OPHTHALMOLOGY.

I. Name the joints most liable to disease in the order of frequency. How would you distinguish inflammation beginning in a synovial membrane from inflammation beginning in a bone; name causes of the two affections, and give the treatment.

II. What are Hæmorrhoids? Give their Causes, Symptoms and Treatment. Indicate the danger of any Operation you describe.

III. Define Gleet. Enumerate the causes that give rise to it and give the Treatment. To what diseases may Gleet give rise? and how?

IV. How is Inguinal distinguished from Femoral Hernia? Describe the Varieties of Inguinal Hernia, and how they can be distinguished from one another.

V. In what cases is excision of the elbow joint indicated and how is the operation performed? Describe after treatment.

VI. Describe the ordinary forms of Corneal ulcers, their causes, termination and the modes of treatment.

WEDNESDAY, 18TH JULY, 10 A.M. TO 1 P.M.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

I. Describe the position of the child in a case of 'cross birth' and the means you would adopt for effecting delivery in such cases.

II. Define 'Puerperal Eclampsia' and give a brief account of the treatment of the disease.

III. Give briefly the differential diagnosis of 'Ovarian Cystoma' from other abdominal enlargements.

IV. State some of the more common causes of Amenorrhœa and briefly describe the treatment in each case.

V. Give an account of the symptoms, diagnosis and treatment of Hooping cough.

WEDNESDAY, 18TH JULY, 10 A.M. TO 1 P.M.

MEDICAL JURISPRUDENCE.

I. Upon what signs would you rely to distinguish between post-mortem lividity, and those due to a blow inflicted during life? Is it possible on the dead body to produce appearances that shall successfully reinstate bruises and blows during life?

II. What are the immediate causes of death in hanging? Give the special appearances which point to this form of death and how is it distinguished from strangulation.

III. Give briefly the circumstances which would enable you to form an opinion as to the homicidal, suicidal and accidental nature of a wound.

IV. What are the symptoms of Dhatura poisoning? For what purposes is the drug employed? In a mixture of curry or pepper-water and rice for example, what are you likely to find very much resembling Dhatura seed, and how would you distinguish one from the other?

THURSDAY, 19TH JULY, 2 TO 4 P M.

HYGIENE.

I. Define climate. Wherein do insular differ from continental climates? State the reasons for the difference indicated.

II. Why is a shade temperature of 90° Fh. with dry air more tolerable than a corresponding temperature with moist air? Mention simple methods, without thermometers, of showing that the air is moist or dry. How do thermometers enable us to ascertain the exact amount of moisture in it?

III. Although fastidious about the water they drink natives generally make gross sanitary mistakes in the matter. Enumerate these, and explain the origin of some of them. How would you propose to influence men's minds so as to get them to change their habits as regards drinking water?

IV. Why are Nitrogenous compounds necessary in food? How are they disposed of in the system? What becomes of them ultimately?

PRELIMINARY SCIENTIFIC EXAMINATION, 1883.

MONDAY, 2ND JULY, 10 A.M. TO 1 P.M.

CHEMISTRY.

I. Explain how you would determine the specific gravity of a solid soluble in water, and of a solid lighter than water.

II. Describe the construction of the spectroscope, and briefly explain the use of this instrument in qualitative analysis.

III. Ammonia is a compound of three volumes of hydrogen and one volume of nitrogen, united to form two volumes; how may this statement be experimentally verified?

IV. What grounds are there for believing that the atmosphere is a mechanical mixture of oxygen and nitrogen, and not a chemical compound of these gases?

V. How much oxygen by weight and by volume is required to completely burn 50 litres, of olefiant gas; and what is the weight and volume, of the products of the combustion measured at 150° C and 745 mm?

VI. You have two glass cylinders given you containing bromine vapour, and nitrogen peroxide respectively, by what tests would you identify the two substances?

VII. Explain the meaning of the terms isomerism, metamerism, and polymerism, and give illustrations of each.

VIII. An alloy contains lead, silver, copper, and manganese. How would you detect the presence of these metals?

IX. By what general reactions may the presence of an alkaloid be determined, and by what special tests are quinine and strychnine distinguished?

TUESDAY, 3RD JULY, 10 A.M. TO 1 P.M.

BOTANY.

N.B.— You are required to attempt the first two questions before passing on to the next.

I. Describe the two plants labelled A. and B. placed before you. Refer them to their natural orders, mentioning the characters upon which you chiefly rely for so referring them.

II. Describe the structures, which may be seen in dissecting specimens of the two seeds labelled C. and D. placed before you.

III. Upon what characters would you lay most stress in determining that a plant belonged to the natural order *Myrtaceæ* and not to *Rosaceæ*?

IV. Describe what you would see with an ordinary lens in the *transverse*, *radial* and *tangental* sections of a stem of an *exogenous* tree, such as *teak*.

V. What is the structure of a mature *Stamen*? and what were the changes which it underwent during the formation of the *Pollen*.

VI. Give an account of the manner in which *Starch* is formed in a leaf. How may it be transferred to other parts of the plant, as for instance, to the tuber of a Potato?

FIRST M. B. AND C. M. DEGREE EXAMINATION, 1883.

MONDAY, 2ND JULY, 10 A.M. TO 1 P.M.

COMPARATIVE ANATOMY.

I. Give the characters of Rhizopods, name the various orders of this class and describe fully the Amœba or Proteus-animalcule

II. Define the order *Rhizostomidæ*, give the sub-kingdom, class and sub-class to which it belongs, and write a summary of the life-history of the animals included under this order.

III. Define the terms

(*a*) Polypide,
(*b*) Polypite, and
(*c*) Polype,

and give instances of each.

IV. Describe briefly the various parasites found on man, included in the class Scolecida and fully the various stages in the life-circle of the tape-worm.

V. Describe the skeleton of a bat.

VI. Describe the fore-leg of a horse, giving the homologies of the several bones.

VII. Describe the incisor and molar teeth of the order Proboscidea.

TUESDAY, 3RD JULY, 10 A.M. TO 1 P.M.

ANATOMY.

I. Describe the greater and lesser wings of the Sphenoid bone, mentioning the parts with which they articulate. How is the Sphenoidal fissure closed in, in the recent state, and to what parts does it give passage?

II. What muscles form the second layer in the sole of the foot? With what parts are they in contact above and below?

III. Describe the Cervical portion of the Internal Carotid Ar-

tery, and mention the parts that separate it from the External Carotid.

IV. Describe the Fourth Ventricle.

V. Give the shape, contents, and boundaries, of the Ischio-Rectal fossa.

VI. Given a complete transverse section of a leg above the middle :—Name the parts visible in cross section, and describe their relations to one another.

WEDNESDAY, 4TH JULY, 10 A.M. TO 1 P.M.

MATERIA MEDICA AND PHARMACY.

I. Describe fully the physiological action of the Bromides.

II. What are the medicinal properties and tests of Acid Sulphurosum B. P.?

III. Give the properties and uses of Liquor Ammonia fortior and of its officinal preparations.

IV. What is Glycerine? Give its physical and medicinal properties and name the officinal preparations into which it enters.

V. To what Natural Order does Glycyrrhiza belong? What part of the plant is used and how prepared? Enumerate the officinal preparations into which it enters.

THURSDAY, 5TH JULY, 10 A.M. TO 1 P.M.

PHYSIOLOGY.

I. Describe the functions of the Medulla Oblongata, 1st, as a conductor; 2nd, as a nerve centre; and 3rd, in what manner does the vagus nerve effect the respiratory centre?

II. Describe the Lymphatics and Lacteals, 1st, as to the modes of origin; 2nd, their structure; and 3rd, the nature, source and destination of their contents.

III. Describe the Salivary Glands, 1st, their structure; 2nd, the characters of the secretion of each; 3rd, the influence of the nervous system, and illustrate such influence by experiment.

IV. Describe the white corpuscles of the blood; and the evidence which exists as to their origin and destination.

SECOND M B AND C. M. DEGREE EXAMINATION, 1883.

MONDAY, 16TH JULY, 10 A.M. TO 1 P.M.

MEDICINE.

I. It often happens that the natural powers of digestion are more or less in abeyance: in such cases how is nourishment to be provided?

II. Hæmorrhage takes place in certain cases into the substance of the Brain: name the parts in which this occurs in the order of frequency. Describe the anatomical appearances in recent and old cases. State the immediate and remote consequences. With what other diseases is this one apt to be confounded, and how would you arrive at a diagnosis? State your treatment during and after an attack and give reasons for the treatment adopted.

III. In what structures does the inflammatory process of Dysentery originate? Describe the local changes which take place as the inflammation advances, the modes of termination of the disease, and the possible Sequelæ. Assuming you have no Ipecacuanha, state your treatment (*a*) in acute, and (*b*) in chronic cases.

IV. Describe the place of origin and various stages of progress of the disease called *Atheroma*. Which arteries are most liable to be affected? State the habits and other diseases that predispose to it. Enumerate the various dangers to which the person in whom it exists is liable. What are the principles of treatment?

TUESDAY, 17TH JULY, 10 A.M. TO 1 P.M.

SURGERY.

I. Describe the symptoms, state of parts, and treatment of the various fractures at the Carpal end of the Radius.

II. State the theory on which what is known in Modern Surgery as the "*Antiseptic*" treatment is based. Name the chief anti-

septics in use and describe their modes of action. Describe also the modes of application and the strengths of the preparations employed in different cases.

III. In what cases would "Digital exploration of the Bladder" be justifiable? How is it performed in both sexes?

IV. How would you treat a case of Retention of the urine from hypertrophy of the Prostate? How do such cases terminate generally? Describe the Post-mortem appearances in fatal cases.

V. Enumerate the principal diseases of the tongue. Describe fully a method for the removal of the entire organ, with the dangers and difficulties that may be encountered.

VI. Define "Fœcal abscess." Where are such abscesses usually found? Describe their causes, symptoms and treatment.

WEDNESDAY, 18TH JULY, 10 A.M. TO 1 P.M.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

I. Describe the mechanism of a case of natural labour, cranial presentation, fourth position, from the setting in of labour to the completion of the second stage.

II. Give the symptoms, diagnosis and treatment of placenta prævia.

III. What are the chief causes of downward displacement of the womb and how would you treat the displacement?

IV. Give the symptoms and diagnosis of pelvic hœmatocele.

V. State briefly the various affections which are liable to occur in the first dentition and their management.

WEDNESDAY, 18TH JULY, 2 TO 5 P.M.

MEDICAL JURISPRUDENCE.

I. A man was found dead with his throat cut and four punctured wounds of the abdomen. State the points you would attend to on being shewn the body, undisturbed from its original position, so as to be able to distinguish between a suicidal and a homicidal act?

II. The corpse of an adult was found in a well. Near the spot was discovered a rope with a noose at one end, there were marks of dragging sufficient to lead to the supposition that the body was pulled along the ground and in the direction of the well. On one side of the neck, there was a defined mark corresponding to the strands of the rope. State on what morbid appearances you would rely to decide whether the subject was strangled and thrown into the well, or that drowning was the cause of death?

III. In examining the body of a new-born child found under suspicious circumstances, what appearances would lead you to infer that the case is probably one of Infanticide?

IV. What are the symptoms of Dhatura Poisoning? For what purposes is the drug employed? In a mixture of curry or pepper-water and rice, for example, what are you likely to find very much resembling Dhatura seeds and how would you distinguish one from the other?

THURSDAY, 19TH JULY, 7 TO 10 A.M.

HYGIENE.

I. What is the best means of estimating the mortality of a people? How do you suppose this to be affected by (*a*) the Birth-rate, (*b*) Emigration, and (*c*) Immigration?

II. Describe the effects that are likely to be produced on the different tissues of the body by the habitual practice of eating in excess, and account for them.

III. What do you consider the best system of drains for Indian cities? Give in some detail the arguments for and against open and closed drains in this country.

IV. Attempts are made by means of *quarantine* to limit the spread of epidemic diseases: to what extent are these successful? Give the reasons why, in most cases, it fails to check their progress.

V. How is the temperature of a place affected by the quantity of invisible water vapour in its atmosphere? Account for the fact that the temperature on the hills is lower than that in the plains in corresponding latitudes.

SATURDAY, 21ST JULY, 2 TO 5 P.M.

OPHTHALMIC MEDICINE AND SURGERY.

I. Describe an Ophthalmoscope, and the methods of using it. Construct Diagrams showing the course of the rays from a point on the patient's retina to a point on that of the observer.

II. In what cases is an Artificial Pupil indicated? Describe the different methods of making one and the after treatment.

III. Under what circumstances is it advisable to remove an eyeball? Describe the operation.

IV. Define Hypermetropia What is it due to? Give the symptoms and methods of diagnosis. Under what conditions is treatment necessary?

M. D. DEGREE EXAMINATION, 1883.

MONDAY, 2ND JULY, 10 A.M. TO 1 P.M.

HYGIENE.

I. Give the composition of milk, its mode of examination and preservation.

II. What part do fats play in nutrition? How much fat can a healthy person assimilate daily?

III. Mention the deodorizers best suited for use in the dry earth method of conservancy, and explain their action.

IV. Give the best modes of purifying water, and explain how they are effective.

TUESDAY, 3RD JULY, 10 A.M. TO 1 P.M.

MEDICINE AND PATHOLOGY.

I. Enumerate the parasites that infest the kidneys. Give the symptoms and pathological changes induced by any one of them, including the diagnosis of renal tumors.

II. Discuss the Clinical significance of Albuminuria.

III. Give the etiology, symptoms, complications, diagnosis, pathology and treatment of Diabetes Mellitus.

IV. Contrast the Symptoms in Locomotor ataxia with those in Tabes dorsalis spasmodica, and give the pathology and treatment in each case.

V. Give the etiology, symptoms, detailed pathology, diagnosis and treatment of Bronchopneumonia.

WEDNESDAY, 4TH JULY, 2 TO 5 P.M.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

I. Enumerate the various circumstances which may call for the use of the forceps and detail the chief points to which attention should be directed preliminary to the introduction of the blades.

II. Describe the symptoms of Puerperal Mania, and state the usual period of their onset.

III. What is meant by Subinvolution and Hyperinvolution, and what evils may ensue from these conditions?

IV. Enumerate the different varieties of Uterine Polypi describing their appearance and structure.

V. Give the symptoms and diagnosis of Tubercular Meningitis

VI. What are the principal forms of Diarrhœa met with in young children, and what is the appropriate treatment of each form?

THURSDAY, 5TH JULY, 10 A.M. TO 1 P.M.

SURGERY.

I. Describe an Aspirator and the mode of using it, and name the diseases in which it is likely to be useful.

II What is a Sarcoma? By what characters may it be distinguished from a medullary cancer?

III. Describe the ordinary course of events in a case of scrofulous inflammation of superficial lymphatic Glands. Give the local and general treatment.

IV. What is Genu Valgum? How may the affection be treated by Osteotomy? What is Ogston's operation?

V. Define Aneurism. How are Aneurisms classified? State the chief causes of their formation and explain how the effect is produced in each case. Describe the Surgical methods of treatment.

VI. How would you operate for the permanent cure of Varicocele?

VII. Give the cause, symptoms and modes of treatment of *acute* inflammation of the Bladder with the various results.

VIII. What is Hæmatocele? When the parts become inflamed, what may happen, and how do you treat the complication?

B. C E. DEGREE EXAMINATION, 1884.

MONDAY, 21ST JANUARY, 10 A.M. TO 1 P.M.

SURVEYING AND LEVELLING.

66 FEET CHAIN.

I. A field containing 58 acres is represented on a map by an area of 16·1 square inches: What is the scale of the map, and the representative fraction? An acre contains 4,840 square yards.

How is a scale of chords constructed and used?

II. A theodolite is set up and adjusted on the parapet of a canal bridge, and the intersection of the hairs is made to cover the centre of a vane placed on another bridge two miles off. The horizontal hair of the theodolite and the centre of the vane are each 12 feet above the water surface of the canal which is assumed to be at rest between two locks. What would be the reading on a levelling staff held on the surface of the water one mile from the theodolite?

III. Prepare a traverse table and plot the polygon ABCDEFG to a scale of 2 chains to an inch from the following data, all the given angles being internal and left hand:—

Angle ABC =	139° 22′	AB =	11·52 chains.
„ BCD =	83° 40′	BC =	3 13 „
„ CDE =	95° 5′	CD =	4 91 „
„ DEF =	262° 32′	DE =	1 90 „
„ EFG =	123° 24′	EF =	1·77 „
„ FGA =	123° 9′	FG =	6 75 „
„ GAB =	72° 48′	GA =	2·58 „

An error of one chain was made in the measurement of one of the lines as given above; correct this before plotting. FE is the magnetic meridian, E being north of F. Compass variation 4° 12′ west of north. Find the area of the polygon from the figures entered in the traverse table.

IV. Make an outline plan of a wood ABCDE from the following data: AB measures 854 feet and bears 7° 24′; BC 403 and 227° 6′; CD 250 and 309° 58′; DE 600 and 166° 51′; EA 283 and 121° 51′. Scale 200 feet to an inch. Find the area of the wood from that of an equivalent triangle drawn on base AB by means of a parallel ruler.

V. Explain fully how the meridian of a station can be found with a theodolite when considerable accuracy is required?

VI. State the various precautions taken in the Great Trigonometrical Survey of India to guard against accidental and cumulative errors when taking long lines of levels.

MONDAY, 21ST JANUARY, 2 TO 5 P.M.

SURVEYING AND LEVELLING.

I. Reduce the level book shewn in Diagram A, and plot the section to scales of 100 feet to an inch horizontal, and 10 feet to an inch vertical.

II. If a horizontal line at R. L. 140·00 represent the level of a road 20 feet wide, with slopes of 1½ to 1 in cuttings and 2 to 1 in banks, draw a plan shewing the land required, 10 feet being allowed beyond the outside edge of each slope. To shew the differences more plainly mark the half widths in figures on the plan, and plot them to a scale of 50 feet to an inch, the scale for longitudinal measurement being the same as in the section.

III. Plot the survey of which the field book is given in Diagram B to a scale of 1 chain to an inch.

The remainder of the afternoon will be devoted to a practical Examination in the use of Surveying and Levelling instruments.

DIAGRAM A.

Back.	Inter:	Fore.	Rise.	Fall.	Reduced Level.	Distance in Feet.	Remarks.
1.78						0	
0.92		10.16				160	
	5.81					230	
	13.90					280	Centre of stream 20 feet wide.
10.17		1 11				304	
	8.03					355	
12 37		2.41				448	
	4.18					490	
	13.08					580	
	6.72					625	
2.14		5.87			148.82		On B. M.
	4.80					682	
5.32		12.01				812	
	6.11					956	
		4 03				1020	

DIAGRAM B.

		568	⊙ A. 5 Railing joins Road fence.
Line No. 6 From ⊙ G to ⊙ A.		⊙ G.	
		383	⊙ B.
		250	45 Corner of wood.
Line No. 5 From ⊙ G to ⊙ B.		⊙ G.	
Railing	99	987	⊙ G.
,,	82 22	920	
House	80 20	850	
Railing	93	730	12 Corner of wood.
		530	80 Angle of wood.
		305	⊙ E.
Railing	4	⊙ F.	
Line No. 4 From ⊙ F to ⊙ G.			through ⊙ E.
,,	12	1024	⊙ F.
,,	35	900	
Bank of River	60	760	
		700	⊙ D.
		610	25 Angle of wood.
Side of		580	wood +s.
wood	50	520	
Side of		400	wood +s.
		250	63 wood.
Line No. 3 From ⊙ B to ⊙ F.		⊙ B.	through ⊙ D.
		950	⊙ E.
		920	30. ,,
		850	22 Corner of wood.
		829	⊙ D.
,,	15	700	
,,	12	500	
,,	60	200	
Bank of River	15	⊙ C.	
Line No. 2 From ⊙ C to ⊙ E.			through ⊙ D Turns to rig.
Bank of		1680	River +s.
,,	8	1661	⊙ C.
,,	20	1300	
,,	31	1000	
,,	24	772	⊙ B.
,,	46	520	
,,	37	300	
Fence of field	10	⊙ A.	At Road fence.
Line No. 1 From ⊙ A to ⊙ C.			through ⊙ B. Bearing 27°

Measurements in links.

TUESDAY, 22ND JANUARY, 10 A.M. TO 1 P.M.

CONSTRUCTIVE ENGINEERING.

I. A Teak king post Truss 24 feet span, 9 feet rise, supports 10 feet in length of a roof weighing (including truss), 50 lb. a square foot, and liable to a normal wind pressure on one side of 30 lb. a square foot; find graphically or otherwise the nature and amount of stress produced in each member, by dead load and wind, also the total stress on each and the proper dimensions for the tie beam if scarfed.

Assume wind on right side of truss, and draw the Frame and Stress Diagrams to scales of 4 feet and 1,000 lbs. to an inch respectively.

II. What are the two most usual definitions given of the co-efficient of transverse strength, and their relative values: show how Rankine's Modulus of Rupture may be derived from either.

Determine the Modulus of Rupture of Memel from the following data: a bar which had a section 2 inches square and which had one end firmly fixed in a wall leaving 2 feet projecting, broke with a load of 504 lb. hung from the unsupported end.

III. A Teak beam 1 foot wide, resting on supports 20 feet apart, is loaded with weights of 5, 10, and 15 tons, placed 5, 10, and 15 feet respectively from the left support, find

(*a*) The pressure on each support.

(*b*) The depth of the beam so that the greatest longitudinal stress on the extreme fibres shall be one ton per square inch.

(*c*) Draw Diagrams of Shearing Force and Bending Moments to scales of 10 and 40 tons to an inch respectively.

IV. A W. I. Plate Girder 20 feet span, 1′ 6″ deep, whose flanges are each formed of a plate 8″ × ⅜″, and two angle irons 2½″ × 2½″ × ½″, joined to the web by a row of ⅝″ inch rivets through it and their vertical shanks, and to the flange plate by two rows of similar rivets, one through the head of each angle iron, is required to support a load of 26 tons uniformly distributed, with a centre stress of 4 tons per square inch of net flange area; what extra thickness of plate 8″ wide should be added to each flange? and how far on each side of the centre of the girder should this extra plate extend?

V. Find for each case, the safe load which a Teak Bridge strut 4 inches square, whose effective length is 10 feet, will bear, when joined to the top and bottom Booms in any of the following ways

(*a*) Each end firmly fastened and bedded in a cast iron socket.

(*b*) One end fixed as in (*a*), the other secured by a turned pin.

(*c*) Each end secured by a turned pin passing through it.

The stress is supposed to be uniformly distributed over the section of the strut, and the pin holes to lie on its axis.

VI. A terrace roof 15 feet wide, weighing including joists, beams, &c., 100 lb. a square foot, is to be carried by teak joists 3″ × 6″, placed 15″ apart from centre to centre, resting on rolled iron I beams 1 foot deep with flanges 6 inches wide.

How far apart should these beams be placed? And how thick should their equal flanges be so that the stress on them may be $4\frac{1}{2}$ tons per square inch.

					lb.	
Co-efficient	Transverse strength		p_b.	of Teak	= 700	per square inch
Do.	Tensile	do.	f_t.	do.	= 15,000	do.
Do.	Crushing	do.	f_c.	do.	= 12,000	do.

TUESDAY, 22ND JANUARY, 2 TO 5 P.M.

CONSTRUCTIVE ENGINEERING.

I. Under what circumstances are Segmental, Elliptic, or Semi-circular Arches most suitable? What are the advantages and disadvantages of each of the above forms of Arch? When is it advisable to load the haunches of an arch, and when should they be kept as light as possible?

II. How may streams which cross the course of a Canal be carried past it—

(*a*) When the beds of both are about the same level;

(*b*) When the stream bed is well below that of the Canal;

(*c*) When the stream bed is above that of the Canal?

What name is generally given to the structure used in each case?

III. How should foundations for a Colonade be constructed in doubtful ground?

For foundations on *Clay*, what, (according to Bengal experiments), is the least thickness which should be given to the lowest footing course, the maximum angle of spread of footings, safe load per square foot, and minimum depth below ground at which foundations should be laid?

IV. Mention the characteristics of good building stone, name some of the most durable kinds, and describe artificial methods of ascertaining their relative durability.

V. Two methods have been generally used for founding Bridges in sandy Rivers, *viz.*, on shallow wells in Madras, and on deep ones in Bengal. State the arguments for and against each system.

VI. Describe and sketch some of the different forms of Canal Falls used in India. Why are Falls used on Canals? Which design is now considered the best, and why?

VII. Sketch neatly to scale, with dimensions fully figured on, the Cross Section through the Sluice of a tank Bund to retain 20 feet of water; make also in the same style a Plan and Cross Section of the outlet Sluice, which is to be of the simplest kind.

The Bund and Sluice are supposed to be founded on good clay, and the latter to be built of brick. Finish the sketches as much as time permits, and write a specification detailing fully the materials to be used, and the mode of constructing the Bund and Sluice.

Note.—Extra marks will be given for VII.

WEDNESDAY, 23RD JANUARY, 10 A.M. TO 1 P.M.

HYDRAULICS.

Note—g may be taken as 32.

I. What head would be necessary to give a discharge of $3\frac{1}{4}$ cubic feet per minute through an orifice 1 inch in diameter in a thin plate? and how much would the discharge be increased if an adjutage of the form giving the maximum discharge were attached, the head remaining as at first?

II. The discharge from sluices is almost always calculated on the assumption that the velocity at the mean depth is the mean velocity. What difference in cubic feet per minute would this make in the calculated discharge from a sluice 4 feet long and 2 feet deep, with a head of 12 feet, the coefficient being taken as $\frac{4}{5}$?

III. Assuming that the mean velocity of water discharging from a rectangular slit in the vertical side of a reservoir is equal to $\frac{3}{4}$ of the bottom velocity, obtain the expression for the discharge over a drowned weir when the water approaches with a surface velocity w.

IV. A river 230 feet wide and 5 feet deep, with banks which may be taken as vertical, has a surface velocity of 3 miles an hour. To what extra height will the river be raised if an anicut 4 feet high be built across it?

V. A canal is 3 feet deep, 40 feet wide at the bottom, with slopes of $1\frac{1}{2}$ to 1, and a fall of 1 in 5875. Design a suitable branch channel to carry $\frac{1}{6}$th part of the water, and find the fall necessary to give the water the same velocity as in the canal.

VI. Deduce the formula for the velocity per second of water flowing in pipes:—$v = 100\sqrt{rs}$, where r = hydraulic mean depth, and s = sine of slope. The constant to be used is to be obtained from the following example:—A full pipe one foot in diameter, with a fall of 1 in 3,000, discharged $269\frac{1}{4}$ gallons per minute.

VII. A lock 150 feet long and 16 feet wide, is filled by means of two sluices, each 3 feet wide and 2 feet deep, in the upper gate. The levels of the water in the upper and lower reaches, and the centres of the sluices, are 12 feet, 5 feet, and 7 feet, respectively, above the floor of the lock. How many cubic feet of water will enter the lock in the third minute after the sluices are opened? Coefficient 0·55.

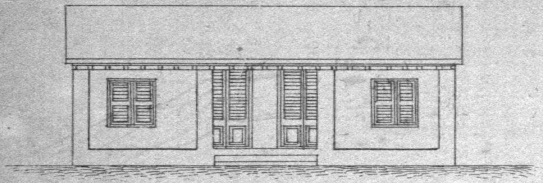
VIII. The lock described above is emptied by two sluices in the lower gate, each 2 feet deep, with their centres 3 feet above the floor of the lock. What must be the width of these sluices so that the depth of the water in the lock may be reduced from 12 feet to 6 feet in $2\frac{1}{2}$ minutes?

UNIVERSITY OF MADRAS.

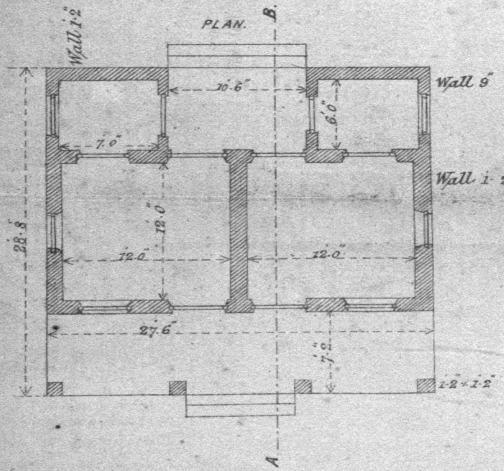
B. C. E. DECREE 1884.

ESTIMATING.

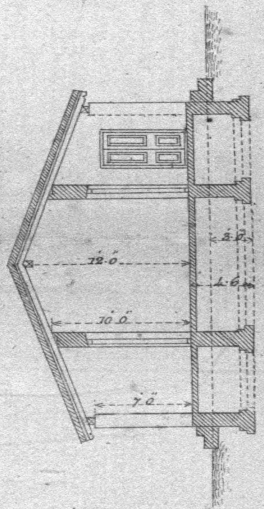
ELEVATION.



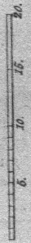
PLAN.



SECTION ON LINE A.B.



SCALE OF FEET.



"G. PAGZENSKY LITH: MADRAS

WEDNESDAY, 23RD JANUARY, 2 TO 5 P.M.

ESTIMATING.

I. What rates would you allow for :—

1. Excavation of foundations in clay 6 feet deep ...c. yd.
2. Ordinary rock cutting, greatest depth 6 feet .. do.
3. Country brickwork set in chunam ... do.
4. " " " mud .. do.
5. Chunam concrete, stating proportions to be used... do.
6. Chunam, stating size of parah in cubic feet ...parah.
7. Metalling roads with broken stone 6 inches deep.square.
8. Teak timber in logs. State how many cubic feet there are in a ton, and how logs are measured ... ...ton.
9. Wrought iron work for girders .. . . do.
10. Cast " " " ... ... do.

II. How much unslaked chunam would you estimate for in each cubic yard of (*a*) Country brickwork? (*b*) Stock brickwork? (*c*) Rough stone work? State the quantities of the materials in a cubic yard of Mortar on which this estimate is based?

III. Make an estimate of the cost of the bungalow shewn in the accompanying drawing.

THURSDAY, 24TH JANUARY, 10 A.M. TO 1 P.M.

EUCLID AND ALGEBRA.

Note.—Tables of logarithms are required.

I. Triangles on the same base, and between the same parallels, are equal.

AD bisects the vertical angle of a triangle ABC, and cuts the base at D. BA is produced to E so that AE is equal to AC. If DE cuts AC in F, shew that the triangles DFC, EFA are equal in area.

II. If two straight lines cut each other within a circle, the rectangle contained by the segments of one of them is equal to the rectangle contained by the segments of the other.

In equiangular triangles the rectangles contained by the non-corresponding sides about equal angles are equal.

III. The rectangle contained by the diagonals of a quadrilateral figure inscribed in a circle is equal to the sum of the rectangles contained by the opposite sides.

An equilateral triangle ABC is inscribed in a given circle. Between A and B take any point P in the circumference, and join PA, PB, PC. Show that the straight line PC is equal to the sum of the straight lines PA PB.

IV. If two straight lines be cut by parallel planes, they will be cut in the same ratio.

V. Solve the following equations :—

$$(a)\quad \frac{2x^2}{\sqrt{x}\,(15+x)-8x}+\frac{123+41\sqrt{x}}{\sqrt{x}\,(5-\sqrt{x})}=\frac{20\sqrt{x}+4x}{3-\sqrt{x}}.$$

$$(b)\quad \left.\begin{array}{l} x^2+3x+y=73-2xy \\ y^2+3y+x=44 \end{array}\right\}$$

VI. Extract the square root of $p+q\sqrt{-1}$, and thence shew that any even root of this expression is of the form $P+Q\sqrt{-1}$.

Find the fourth roots of (-4).

VII. Four pieces of white paper, on one of which a mark is made, are put into a hat; and five pieces of coloured paper, one of which also is marked, are put into another hat. In how many ways can four pieces, *viz.*, two from each hat, be drawn without the two marked pieces appearing simultaneously?

VIII. Find the amount of Rs. 5,000 lent at compound interest at 4 per cent. per annum for 10 years, one half of the annual interest being converted into principal every half year.

THURSDAY, 24TH JANUARY, 2 TO 5 P.M.

TRIGONOMETRY AND MENSURATION.

Note—Logarithmic Tables are required, and Tables of squares may be used.

I. Explain the meaning of the equations $\pi = 180°$, and π 3·14159 . . . Are they identical?

The section of an oval drain is as follows :—Describe a circle of which AB is a horizontal diameter, and CD a vertical diameter (C being at the top). Join AD BD, and produce them to E and F re-

spectively. With A as centre and distance AB describe an arc BE, and with B as centre and the same radius describe an arc AF. With D as centre and radius DE, describe an arc EF. Then ACBEFA is the section of the drain. Write down in circular measure the angles subtended by the different arcs at their respective centres, and find an expression for the circumference of the oval in terms of the radius of the original circle.

II. Show that—

$$(a)\ \text{Tan}\left(\frac{\pi}{4}-\frac{\theta}{2}\right)=\frac{\sqrt{1-\sin\theta}}{\sqrt{1+\sin\theta}},\ \text{where}\ \theta<\frac{\pi}{4}.$$

$$(b)\ \text{Sin}^{-1}\frac{1}{\sqrt{5}}+\cot^{-1}8=\frac{\pi}{4}.$$

III. From the top of the island mountain of Teneriffe the depression (corrected for refraction) of the sea horizon is $1^\circ \cdot 58'$. Considering the earth a sphere of radius 3,956 miles, find the height of the mountain above the sea-level in feet.

IV. Assuming the expression for the cosine of an angle of a triangle in terms of the sides, find expressions in the same terms, adapted to logarithmic computation, for the sine and cosine of half the angle, and for the area of the triangle.

V. It is desired to find the distance between two inaccessible points P, Q. The following observations are made from two stations A, B, 1,000 feet apart—

$$\angle PAQ = 42^\circ - 45' \qquad \angle PBA = 57^\circ - 33'$$
$$\angle QAB = 54^\circ - 12' \qquad \angle QBP = 50^\circ - 19'$$

From these data, the sides PB QB are calculated to be 2305·75 and 2634·09 feet respectively. Find PQ and the angles subtended at P and Q by QB and PB respectively.

VI. Find the radius of the circle inscribed in a given regular polygon of n sides; and (assuming that the limit of tan θ is θ when θ is indefinitely diminished) deduce an expression for the area of a circle.

VII. The span of a segmental arch is 40 feet, the rise 10 feet, the thickness of the arch ring $2\frac{1}{2}$ feet throughout, and the length of the arch 24 feet. Find the number of cubic feet of masonry in the ring. *Note.—Tables of arcs and segments are not to be used.*

VIII. A road is to be 40 feet wide, bank slopes 2 to 1, cutting slopes $1\frac{1}{2}$ to 1. Find the areas of excavation and filling in each of the following sections :—

	Central height.	Side slope of ground
Section I	... + 3 ft.	18 to 1
Section II	... — $\frac{1}{2}$ ft.	10 to 1

IX. It is desired to ascertain the volume of some casks with the view of estimating their buoyancy. The external dimensions of each are—length 48 inches, bung diameter 34 inches, head diameter 28 inches. Find the approximate volume of a cask.

X. The following are the ordinates of an indicator diagram taken from the engines of H. M. Troopship "Euphrates;" 2·75 3·05 3·05 2·90 2·45 1·95 1 50 1 25 1·05 0·01 inches. The ordinates are at equidistant intervals, and the distance between the extreme ordinates is 4·15 inches. Find the area of the diagram in square inches.

FRIDAY, 25TH JANUARY, 10 A.M. TO 1 P.M.

ARCHITECTURAL DRAWING.

I. Draw to a scale of 8 feet to an inch a Plan, Elevation, and Section of an Assistant Apothecary's Bungalow, which shall be 44 feet square over all outside.

Front and Back Verandah to be each 10 feet clear width, centre room 18′ × 18′; with a room on each side of it 18′ × 10′, and behind each of these a room 10′ × 10′.

Foundations on clay 3 feet below ground. Walls of Brick.

Figure dimensions on walls, roof timbers, &c.; letter, colour, and finish as far as time allows.

FRIDAY, 25TH JANUARY, 2 TO 5 P.M.

TOPOGRAPHICAL DRAWING.

I. Define Topographical drawing, and mention the two great classes of objects, and chief features generally represented thereby.

II. Draw full size and shade on the Horizontal system, a Topographical plan of an oblique pyramid three inches square at base,

and three inches high, its axis being inclined at an angle of 30° to the vertical, and base horizontal.

III. Copy the lower half of the map set before you, mark out and tint the catchment basin of Oomianputty tank, and finish your copy as neatly and fully as time permits.

SATURDAY, 26TH JANUARY, 10 A.M. TO 1 P.M.

STATICS AND DYNAMICS.

NOTE.—*Coefficient of friction wrought iron on cast, surfaces dry* 0·2.
Do. do. do. lubricated 0·1.

I. A derrick crane consists of a vertical post AB of length l, a moveable derrick AC hinged at A of length l and weight w, and a guy rope BC. A weight W is hung from C. Find the ratio of the tension in the guy rope when AC is at 30° with the horizon to the tension when AC is horizontal.

II. A roof weighing 30 lbs. per sq. *ft.* and of 30° pitch is carried on pairs of simple rafters 4 ft. apart. Each rafter is 12 ft. long, and abuts on the inner edge of a wall. Considering the joint at the apex of a pair of rafters perfectly smooth, find—

(*a*) the thrust in each rafter,

(*b*) the amount and direction of the pressure on the wall per running foot.

If each pair of rafters were converted into a triangular frame by the addition of a tie beam, what effect would be produced on the direction and amount of the resultant pressure on the wall?

III. Given that the surface of a sphere is equal to the area of 4 great circles, find the centre of gravity of a semicircular arc.

The trapezoidal section ABCD of a wall has the following dimensions: AB = 12 *ft.*, AD = 4 ft., BC = 7 *ft.* The angles at A and B are right angles. Find, by calculation or construction, the position of the centre of gravity.

IV. What are the conditions under which a body, resting on a horizontal plane, and acted on by its weight and by a horizontal force, will neither overturn nor slide?

A reservoir wall 18 *ft.* high, and 8 *ft.* thick throughout is built of masonry weighing 125 lbs. per c. *ft.*, and sustains horizontal pressures on one side, the resultant of which, 10,125 lbs. per ft. run, acts

at a point 12 ft. below the top of the wall. Enquire into the stability of the wall at the lowest bedjoint, neglecting any resistance which may be furnished by the bonding of the masonry, or by the cement employed. Limiting angle of resistance for masonry on masonry to be taken at 28°, which will allow a margin for safety.

V. A cylinder with plane ends, capable of rotating about its vertical axis, rests on a horizontal plane. When the cylinder is in the state bordering on motion owing to the action of a tangential force, find the moment of the friction about the axis.

A wrought iron cylinder 3 in. diameter, with its axis vertical, rests on a horizontal bed of cast iron, and carries certain apparatus weighing in all 600 lbs. Power to rotate the cylinder is applied tangentially at an arm of 10 inches. Neglecting the friction of the end of the cylinder on its bed, the power required to start the apparatus would be 10 lbs. Find the actual power required to start it, taking the friction into account.

VI. The Irish Mail train from London travels 85 miles from Chester to Holyhead, without a stop. Water is picked up during the run from a trough, a quarter of a mile long, placed between the rails. A pipe descends vertically from the top of the tank in the tender, and is curved round to the front until it enters the water in the trough horizontally. The difference of level between the entry and discharge orifices of the pipe is 8 ft. Neglecting the resistances due to friction, &c., find—

(*a*) the least velocity of the train which will deliver water into the tender;

(*b*) the velocity of discharge when the train travels at 40 miles per hour.

VII. The velocity of a locomotive is 30 miles per hour. The gauge of the line being 5½ ft., how much higher should the outer rail on a curve of 40 chains (of 66 ft.) radius be than the inner, so that there may be no tendency to leave the line?

VIII. The ram of a pile driver weighs 800 lbs. and has a drop of 15 ft. At each blow, it is observed that a pile 10 inches square is driven ½ inch. Allowing 20 per cent. of the total energy for friction on guides and compression of pile, find the pressure per square inch on the pile.

IX. The fly wheel of a horizontal steam engine makes 3 revolutions per second. The piston, which is 12 inches in diameter and

which weighs with its appendages 500 lbs., has to be started from rest at the end of each stroke, *i.e.*, twice in each revolution. The starting may be effected either by the inertia of the fly wheel acting through the crank, or directly by the steam. It being calculated from the dimensions of the machine that the piston travels over ·002 inch from rest while the fly wheel accomplishes $\frac{1}{120}$ of a revolution, find the pressure per square inch of the steam at the commencement of each stroke in order that the starting may just be effected by the steam alone, *i.e.*, without strain on the crank.

X. Find the moment of inertia of a rectangular lamina of indefinitely small thickness, about one of its sides as an axis.

Thence find the moment of inertia of the lamina about an axis passing through its centre of gravity and parallel to one of its sides.

SATURDAY, 26TH JANUARY, 2 TO 5 P.M.

HYDROSTATICS AND PNEUMATICS.

NOTE.—*Specific gravity of mercury* 13·58.
Do. do. sea-water 1·03.
Coefficient of cubic expansion of gas for rise of 1° *F. above freezing point* ·002036.

I. A hollow right cone filled with liquid, has its base horizontal. Compare the pressure on the curved surface with that on the base.

Give a physical explanation of the fact that the pressure on the base exceeds the whole weight of the liquid.

II. A lock of rectangular section, 10 ft. wide, is closed at the lower end by a pair of gates, each gate being carried on two hinges. The lift of the lock is 9 ft., and the depth of water in lower channel 3 ft. The bottom of the lock is on the same level as the bed of the channel, and the lower hinge of each gate is 6 inches above this level. Find the position of the upper hinge in order that the pressures on it and the lower hinge may be equal, and find the amount of such pressure.

III. A small piece of teak weighs in air 320·4 grains. The teak and a sinker (which is attached to immerse it) weigh together in water 432·7 grs., and the sinker alone weighs in water 590 grs.

Neglecting the weight of air displaced in the above operation, find the weight of a cubic foot of the teak.

IV. The specific gravity of the materials composing a timber ship, including her cargo, is 1·3. The ship meets with a cyclone at sea, loses her masts, springs a leak, and ultimately goes down in 25 fathoms of water. What interval elapsed from the instant her deck was level with the surface of the water till the keel struck the bottom, the depth from deck to keel being 24 ft.; and with what velocity did she strike the bottom?

V. A thin cylinder with hemispherical ends sustains an internal uniform steam pressure of p lbs. Show that the tensions of the cylindrical and hemispherical portions of the vessel are as 2 : 1.

If a boiler of the above form is 4 ft. in diameter, of best Staffordshire iron, double riveted, and is to bear a working pressure of 125 lbs. per square inch, find the requisite thickness of the cylindrical portion, the safe resistance of the material to tension being 6,200 lbs. per square inch.

VI. State the relations between—

(a) the pressure and volume of a gas if the temperature remains constant;

(b) the temperature and volume if the pressure remains constant;

and thence find the change of pressure depending on a given change of temperature.

A hollow iron shell is hermetically closed at an atmospheric temperature of 80° F., and is then heated in a furnace to 1,000° F. What is the excess of the pressure inside over that of the atmosphere outside?

VII. Describe the Bramah Press with the aid of a hand sketch, explaining how it is that, when the pressure in the machine is considerable, the valves are able to open and admit more fluid.

If the radii of the cylinders are 10 in. and 1½ in. respectively, and a power of ¼ ton is applied through a lever whose arms are 1½ in. and 12 in., find the actual weight which can be raised, deducting 1 per cent. of the total weight for friction.

VIII. A point on the Nilgiris is 6,000 ft. above the sea-level. If the mercurial barometer stands at 30 in. at sea-level, the temperature being 82° F., and if the temperature at the point on the hills

is 66°, find the maximum effective height of a water siphon which would act in the latter locality.

IX. The upper side a of a square is horizontal, and is immersed to a depth h below the surface of a liquid. Find the distance of the Centre of Pressure from the lowest side of the square; and thence show that, as the depth increases, the position of the Centre of Pressure tends to approximate to that of the Centre of Gravity.

X. A covered wrought iron cylinder (for a foundation) 6 ft. in diameter, and 20 ft. high, weighing 600 lbs. per foot of height, is sunk through 15 ft. of water, and rests on the permeable bed of a river. Air is pumped into the upper part of the cylinder until the bed is just exposed. What additional weight must be supplied to prevent the cylinder from rising?

MATRICULATION EXAMINATION, 1883.

Monday, December 17th, 10 A M. *to* 1 P. M.

URIYA—TEXT-BOOKS AND GRAMMAR.

N. B.—Marks will be deducted for bad spelling.

I. ବଇଶଖାସ୍ତ୍ରନ ବୋଇଲେ ଜନ୍ମେଜୟ ।
ଏଥନ୍ତେ ଯାହା ହେଲା କହିବା ମନ ଦିଅ ॥
ଉକ୍ତ ଶ୍ଳୋକରେ କଥିତ ବ୍ୟକ୍ତିଦ୍ୱୟର ବକ୍ତା-
ଶ୍ରୋତା ସମ୍ବନ୍ଧକ ସୂତ୍ରରେ ପ୍ରତିଷ୍ଠିତ ହେଲା ?

II. 1. ଶକୁନି ଦୁଃଶାସନ କର୍ଣ୍ଣଙ୍କ ବଚନ ।
ପବନ ସାହା ପାଇ ଦହନ ସୁଯୋଧନ ॥
ଧର୍ମ-ତୃଣ ବନକୁ ପକାଇଛି ଦହି ।
ତା ଶାନ୍ତି କରିବ ମୁ ବଚନ-ଜଳ ଦେଇ ॥

2. ସତ୍ୟ ବ୍ରତ୍ତ ସଂସାର ସମୁଦ୍ରର ନାବ ।
ତାହା ଛାଡ଼ି ଦେଲେ କିରୂପେ ତରିବ ॥

3. ଏହା ଶୁଣି ସାତ୍ୟକି ନମ୍ରନ କରି ରଙ୍ଗ ।
କହିଲେ ହୃଦୟରେ କ୍ରୋଧକୁ କରି ସଙ୍ଗ ॥
ବୋଇଲେ ଅହେ ରାମ ତୁମ୍ଭଙ୍କୁ ଅନୁରୂପ ।
କଥା ଏବେ କହିଲ ବସାଇ ସବୁ ନୃପ ॥
କାପୁରୁଷ ଶୂର ହୋଇତ ଲୋକେ ଛନ୍ତି ।
ଯେହିଁକି ଅନୁରୂପ ଯୁକତ କରୁ ଥାନ୍ତି ॥

(କ) ଉପରୋକ୍ତ ପଂକ୍ତିମାନଙ୍କର ସରଳ ବ୍ୟାଖ୍ୟା କର ।

(ଖ) ରେଖାଚିହ୍ନିତ ପଦମାନଙ୍କର ପଦାନ୍ୱୟ କର ।

(ଗ) ଉପରେ ଲେଖିତ ପ୍ରଥମ ଚାରି ପଂକ୍ତି କାହାର ଓ କେଉଁ ସମୟର ଉକ୍ତି ।

(ଘ) ସାତ୍ୟକି ରାମଙ୍କର କି ବଚନ ଶୁଣି କ୍ରୋଧରେ ଆରକ୍ତ-ଲୋଚନ ହେଲେ ?

III. (କ) ପାଣ୍ଡବ, ଧୃତରାଷ୍ଟ୍ର, ନୃପ, ମାଧବ ଓ ଦ୍ରୌପଦୀ ଏ ପଦମାନଙ୍କର ବ୍ୟୁତ୍ପତ୍ତି ଲେଖ ।

(ଖ) କୁଶବାହୁ, ଜନ୍ମୁନାଥ, ତୁଣୀର, ଜାତବେଦା, ବଲ୍ଲୀ, ସବିତା, ଆୟୁଧ ଓ ବିଶ୍ୱରୂପ ଏ ପଦ-ମାନଙ୍କର ଅର୍ଥ ଲେଖ ।

IV. 1. ସମୁଦ୍ର ଅତିଶୟ ପ୍ରସନ୍ନ ଓ ବିସ୍ତୀର୍ଣ୍ଣ, ମଧ୍ୟେ ୨ ଧବଳବର୍ଣ୍ଣ ଫେନପୁଞ୍ଜ ରହିଅଛି, ଆଉ ମଧ୍ୟୟ ସେତୁଦ୍ୱାରା ଦ୍ୱିଖଣ୍ଡରେ ବିଭକ୍ତ ହୋଇଅଛି, ଦେଖିଲେ ବୋଧ ହୁଏ ଯେମନ୍ତ ଶ୍ରୟାପଥରେ ବିଭକ୍ତ ତାରକିତ ଶାରଦୀୟ ନଭୋମଣ୍ଡଳ ବିରାଜିତ ହୋଇଅଛି ।

2. ଗ୍ରୀଷ୍ମକାଳାବସାନରେ ସଜଳ ଜଳଧରାବଳୀ ଲୋକଲୋଚନର ଯାଦୃଶ ପ୍ରୀତିଜନକ ହୁଏ, ସେମାନେ ମଧ୍ୟ ପ୍ରଜାପୁଞ୍ଜର ସେହିପରି ଆନନ୍ଦଜନକ ହେଲେ ।

3. ତୁମ୍ଭେ ଲୋକାନ୍ତରକୁ ଗମନ କରିବାରେ ଉତ୍ସୁକ ହୋଇ ଆମ୍ଭର ଚିତ୍ତବିନୋଦ ନିମନ୍ତେ

ଯେଉଁ କୋକିଳାଠାରେ କଳଭାଷିତ, କଳ-ହଂସୀଠାରେ ମନ୍ଦାଳସଗତି, ମୃଗୀଠାରେ ଚଞ୍ଚଳ ଦୃଷ୍ଟି ଏବଂ ପବନକମ୍ପିତ ଲତାରେ ଅଙ୍ଗବିଳାସକୁ ଦେଖି ଯାଇଅଛୁ ; ସେମାନେ ଆମ୍ଭର ଶୋକଦୁର୍ଭର ହୃଦୟ ସାନ୍ତ୍ୱନା କରି ପାରୁ ନାହାନ୍ତି ।

4. ତୋହର କୀର୍ତ୍ତିରୂପା ନାୟିକା କିପାଁ ତୋତେ କୋପ କରି ଦେଶାନ୍ତରକୁ ଗଲା ।

(କ) ଉପରଲେଖିତ ପଂକ୍ତିମାନଙ୍କୁ ବିଶଦଭାବରେ ବୁଝାଇ ଦିଅ ।

(ଖ) ସେମାନଙ୍କରେ କୌଣସି ଅଳଙ୍କାର ଥିଲେ ତାହାର ନାମନିର୍ଦ୍ଦେଶ କର ।

(ଗ) ରେଖା-ଚିହ୍ନିତ ପଦମାନଙ୍କରେ ଥିବା ସନ୍ଧି ଓ ସମାସମାନଙ୍କର ବ୍ୟାଖ୍ୟା କର ।

V. ଇନ୍ଦୁମତୀଙ୍କ ମୃତ୍ୟୁରେ ଶୋକବିହ୍ୱଳ ଅଜଙ୍କୁ ବଶିଷ୍ଠଶିଷ୍ୟ ଯେଉଁ ପ୍ରବୋଧବଚନ କହି ଥିଲେ ତାହା ନିଜ ଭାଷାରେ ଲେଖ ।

VI. ପରଶୁରାମ, ତାଡ଼କା ଓ କୈକେୟୀଙ୍କ ବିଷୟରେ ରଘୁବଂଶ ପାଠ କରି ଯାହା ଜାଣି-ଅଛୁ ସଂକ୍ଷେପରେ ତାହାର ଉଲ୍ଲେଖ କର ।

VII. ନିମ୍ନଲିଖିତ ବାକ୍ୟ ଓ ପଦମାନଙ୍କୁ ଶୁଦ୍ଧ କରି ଲେଖ ।

(କ) ଏମନ୍ତ ହୋଇ ସେ ବିକ୍ରମଦେବ ରାଜା ସମ-ଶ୍ରଜ୍ୟ କରନ୍ତେ ତାହାଙ୍କର ଏମନ୍ତ ସାଯୁଜ୍ୟ

ଭାବ ଦେଖି ସ୍ୱର୍ଗରେ ସମସ୍ତ ଦେବତାମାନେ ବୋଲିଲେ ଅହୋ ଧନ୍ୟ ଏ ବିକ୍ରମାଦିତ୍ୟଙ୍କୁ, ମନୁଷ୍ୟ ଦେହ ବହି ଏମନ୍ତ ପରୋପକାର କରୁଅଛି ।

(ଖ) ମୁହିଁ ଅଜରାମର ହୋଇ କେତେ ସୁଖଭୋଗ ଭୁଞ୍ଜିବି ।

(ଗ) ଏକ ଦିନକରେ ରାଜା ସମସ୍ତ ଅଙ୍ଗବଳ ଯୋନ ପ୍ରତିଷ୍ଠାନଗର ନାମେ ଦ୍ୱିତୀୟ ନଗରକୁ ଚାଲେ, କରନ୍ତେ ବାଟରେ ଶାଳବାହନ ହୋଇ ଏକ ରାଜା ତାହା ସଙ୍ଗରେ ରେଷ୍ଟ ହୋଇଲେ ।

(ଘ) ସନ୍ମାନ, ସପରିବାରବୃତ, ଗଣେକ, ସୁମ-ରିଲେ, ପରିଯନ୍ତ୍ରେ, ନିର୍ଭୀ, ନଗରେ, ଉଜାଗର ଓ ରାଇଜ ।

VIII. ଭର୍ତ୍ତୃହରିଙ୍କର ବୈରାଗ୍ୟାବଲମ୍ବନର କାରଣ ନିର୍ଦ୍ଦେଶ କର ।

FIRST EXAMINATION IN ARTS, 1883.

Tuesday, December 18*th*, 10 A. M. *to* 1 P. M.

URIYA—TEXT-BOOKS AND GRAMMAR.

N. B.—Particular attention should be paid to correct spelling of words.

I. (କ) ନିମ୍ନୋଦ୍ଧୃତ ପଂକ୍ତିମାନଙ୍କର ବ୍ୟାଖ୍ୟା କର:— ଯେଉଁ ବୃତ୍ତି ଅବଲମ୍ବନ କଲେ ବୁଦ୍ଧିବୃତ୍ତି ଓ ଧର୍ମବୃତ୍ତି ଚରିତାର୍ଥ ହୁଏ, ପରମେଶ୍ୱରଙ୍କର ଆଜ୍ଞା ପ୍ରତିପାଳିତ ହୁଏ ଏବଂ ଅନ୍ୟର ଉପାସନା ତୁଚ୍ଛ କରି ସ୍ୱୀୟ ସ୍ୱତନ୍ତ୍ରତା ରକ୍ଷା କରିବାକୁ ହୁଏ, ତାହା ନନ୍ଦନୀୟ ବୃତ୍ତି ହେବା ଦୂରେ ଥାଉ ଅତି ପ୍ରଶଂସନୀୟ ପରମ ପବିତ୍ର ଧର୍ମ ।

ଯେମନ୍ତ ନିଶୀଥ ସମୟରେ କୌଣସି ସଂଗ୍ରହଣୀ ଦୀପଶିଖା ରାଜମାର୍ଗର ପାର୍ଶ୍ୱସ୍ଥ ଅତିକ୍ରାନ୍ତ ସୌଧାବଳୀକୁ ତିମିରାବଗୁଣ୍ଠିତ କରି ଉତ୍ତରୋତ୍ତରବର୍ତ୍ତୀ ପ୍ରାସାଦ ସବୁ କ୍ରମଶଃ ଉଜ୍ଜ୍ୱଳ କରି ଥାଏ, ସେହିପରି ଇନ୍ଦୁମତୀ ଯେଉଁ ଭୂପାଳଙ୍କୁ ଅତିକ୍ରମ କରି ଗମନ କଲେ, ସେମାନଙ୍କର ମୁଖଶଶୀ ବିଷାଦରେ ମଳିନ ହେବାକୁ ଲାଗିଲା ଏବଂ ପୁରୋବର୍ତ୍ତୀ ରାଜ-

ଗଣକର ମୁଖମଣ୍ଡଳ ଉଦୀପ୍ତ ଅନୁରାଗ ଲକ୍ଷ-ଣାରେ ସମୁଜ୍ଜ୍ୱଳ ହୋଇଲା ।

ତାହାର ଉତ୍ତରାଧିକାରୀମାନେ କ୍ରମଶଃ ଦୁର୍ବଳ ହେବାରୁ ହୂଣମାନେ ପ୍ରବଳ ହୋଇ ତାହାର ଜିଣିଲା ଅନେକ ଦେଶ ପୁନର୍ବାର ଅଧିକାର କରି ଥିଲେ ।

(ଖ) ରେଖାଚିହ୍ନିତ ପଦମାନଙ୍କର ସୂଚିସହିତ ସନ୍ଧି-ବିଚ୍ଛେଦ କର ।

(ଗ) ପ୍ରତିପାଳିତ, ପାର୍ଶ୍ୱସ୍ଥ ଓ ଉଦୀପ୍ତ ଏମାନେ କିରୂପେ ସିଦ୍ଧ ହେଲେ ?

(ଘ) ଭୂପାଳ ଶବ୍ଦର ମୂଳାର୍ଥ କଅଣ ?

(ଙ) ଗମନ କଲେ ଓ ଗମିଲେ ଏ ଦୁହିଁର ପ୍ରଭେଦ ବୁଝାଇ ଦିଅ ।

II. (କ) ତଳଲେଖିତ ବାକ୍ୟମାନଙ୍କୁ ଶୁଦ୍ଧରୂପରେ ଲେଖ:—

ମୁଇ ଶେଠାକୁ ଜିବୁ ନା ।
ରଘୁ ମୂର୍ଚ୍ଛିତ ଭୂତଳେ ପଡ଼ିଲେ ।
ସେ କେଠିକି ଜାଇଲା ?
ତୁ କଣ କରୁଛୁ ?

(ଖ) ରଘୁ, ସେ, ତୁ, ମୁଁ ଏମାନଙ୍କର ବ୍ୟତ୍ୟ-ପନ୍ନ ଲେଖ ।

III. ଅନନ୍ତର ଋତୁ ପର୍ଯ୍ୟାୟକ୍ରମରେ ଶରତ୍କାଳ ଉପସ୍ଥିତ ହେଲା । ମାର୍ତ୍ତଣ୍ଡର ପ୍ରଚଣ୍ଡ କିରଣ ମେଘାବରଣ ଅଭାବରେ ଅତିଶୟ ଅସହ୍ୟ

ହୋଇ ଉଠିଲା ; ଅନ୍ତରୀକ୍ଷରେ ଆଉ ଇନ୍ଦ୍ରଧନୁର ଅଣୁମାତ୍ର ଚିହ୍ନ ରହିଲା ନାହିଁ ; ଜଳ ନିର୍ମଳ ହେବାକୁ ଲାଗିଲା ଏବଂ ତହିଁରେ ଅରବିନ୍ଦ ସବୁ ପ୍ରସ୍ଫୁଟିତ ହେଲା ; ଗଗନମଣ୍ଡଳରେ ଜ୍ୟୋତିଷ୍କ ମଣ୍ଡଳ ଅତ୍ୟନ୍ତ ଉଜ୍ଜ୍ୱଳ ହେଲା ; ମରାଳସମୂହ ନିର୍ମଳ ନଦୀସଲିଳରେ କେଲି କରିବାକୁ ଆରମ୍ଭ କଲେ ; କାଶକୁସୁମର ଗୁଚ୍ଛା ସବୁ ବିକସିତ ହେବାରେ ଦିଙ୍ମଣ୍ଡଳ ଧବଳ-ବର୍ଣ୍ଣ ହୋଇ ଉଠିଲା ; କୃଷିବଳ କାମିନୀମାନେ ଧାନ୍ୟ ରକ୍ଷାର୍ଥେ ବିଲର ଯାଇ ଇକ୍ଷୁଛାୟାରେ ଉପବେଶନପୂର୍ବକ ମନଃ ସୁଖରେ ରଘୁଙ୍କର ଗୁଣ ଗାନ କରିବାକୁ ଲାଗିଲେ ; ମଦୋଦ୍ଧତ ବୃଷଭଗଣ ଇତସ୍ତତଃ ନଦୀତୀରରେ ମହାସ୍ଫାଳନ କରି ରଘୁ ରାଜାଙ୍କ ତୁଲ୍ୟ ବିକ୍ରମ ପ୍ରକାଶ କରିବାକୁ ଲାଗିଲେ ; ଏବଂ ସେନାଗଜ ସବୁ ବିକସିତ ସପ୍ତପର୍ଣ୍ଣ କୁସୁମର ମଧୁଗନ୍ଧରେ ଏକାନ୍ତ ଉତ୍ତେଜିତ ହୋଇ ସପ୍ତାବସ୍ଥାବରୁ ସପ୍ତଧାରାରେ ମଦକ୍ଷରଣ କରିବାକୁ ଆରମ୍ଭ କଲେ ।

(କ) ରେଖାଚିହ୍ନିତ ପଦମାନଙ୍କରେ ଥିବା ସମାସ-ମାନଙ୍କର ନାମ ଓ ବ୍ୟାଖ୍ୟା ଲେଖ ।

(ଖ) ମାର୍ତ୍ତଣ୍ଡ, ଇନ୍ଦ୍ର ଓ ଅରବିନ୍ଦ ଏମାନଙ୍କର ଯେତେ ପ୍ରତିପଦ ଜଣା ଥାଏ ଲେଖ ।

(ଗ) ଆରମ୍ଭ କଲେ ଏହାର ଅନ୍ୱୟ ଲେଖ । ଉତ୍ତ-

ଷ୍ୟହ୍ଲାଲ ବୁଝାଇବାକୁ ଏହା କି ଆକାର ଧାରଣ କରିବ ?

(ଘ) ସପ୍ତପର୍ଣ୍ଣ ଓ ସପ୍ତାବସ୍ଥ ଏ ଦୁଇ ପଦର ଅର୍ଥ କଅଣ ?

IV. (କ) ନିମ୍ନସ୍ଥିତ ପଂକ୍ତିମାନଙ୍କରେ କ ' ପୂର୍ବ କଥାର ଉଲ୍ଲେଖ ଅଛି ଲେଖ ।

ଯେ ଭ୍ରୂଭଙ୍ଗିମାତ୍ରରେ ନହୁଷ ରାଜାଙ୍କୁ ଇନ୍ଦ୍ର-ପଦରୁ ପରିଚ୍ୟୁତ କରି ଥିଲେ ।

ହେଇ ଦେଖ, ସାତକର୍ଣ୍ଣିରଷିଙ୍କର ପଞ୍ଚାପ୍ସରୋ ନାମକ ଝୀଡ଼ାସରୋବର ଦେଖା ଯାଉଅଛି ।

(ଖ) ଷଡ଼ୁବିଧ ସୈନ୍ୟ, ଚତୁରଙ୍ଗବଳ, ମଣ୍ଡୀପୃଷ୍ଠୀ, ଚିତ୍ରଚମହାରଣୀ, ପ୍ରବାଳକୀଟ, ଓ ବ୍ୟୋ-ମଯାନ ଏ ପଦମାନଙ୍କର ଅର୍ଥ ଲେଖ ।

(ଗ) ତଳଲେଖିତ ଖଣ୍ଡ ବାକ୍ୟମାନଙ୍କୁ ପୂରଣ କର:—

ସଖି ! ଏହି ଭୂଷଣ କର୍ଣ୍ଣରେ—
ଦେଖ ଭ୍ରମଣ ଦ୍ୱାରା ଅନେକ ଜ୍ଞାନ—
ସାବିତ୍ରୀ ସତ୍ୟବାନଙ୍କୁ—

V. ରଘୁ ଓ ରାମ କି ପରି ଲୋକ ଏବଂ କି ପରି ରାଜା ଥିଲେ ତୁଳନାଦ୍ୱାରା ବୁଝାଇ ଲେଖ ।

VI. ମୂଳ ରଘୁବଂଶର ରଚୟିତା କିଏ ? ତାହା-ଙ୍କର ଜୀବନୀ ଓ ରଚନା ସମ୍ବନ୍ଧରେ ଯାହା ଜାଣ ଲେଖ ।

MATRICULATION EXAMINATION, 1883.

Monday, December 17th, 2 to 5 P. M.

URIYA—TRANSLATION AND COMPOSITION.

I. Translate into Uriya. [See Urdu Tanslation paper].

II. Subject of a short Essay in Uriya :—

The value (utility) of the use of Proverbs. Illustrate by examples.

III. Translate into English the following passages :—

1. ରଘୁ ସୁମ୍ପୁର ଶରହ୍ରାଲର ଏହିପରି ରମଣୀୟ ସ୍ଥାନ ସନ୍ଦର୍ଶନ କରି ଦିଗ୍‌ବିଜୟାଭିଗମନ ନିମନ୍ତେ ବାଞ୍ଛା କଲେ । ସେ ସେହି ମାନସରେ ଚାରି ଦିଗରୁ ସୈନ୍ୟସାମନ୍ତ ସବୁ ସଂଗ୍ରହ କରିବାକୁ ଲାଗିଲେ ; ବିଦେଶସ୍ଥ ସହକାରି ଭୂପାଳମାନଙ୍କୁ ଆସିବାକୁ ସମ୍ବାଦ ଦେଲେ ଏବଂ ଉପଯୁକ୍ତ ଅମାତ୍ୟବର୍ଗ ହସ୍ତରେ ରାଜଧାନୀ ଏବଂ ରାଜ୍ୟର ପ୍ରାନ୍ତବର୍ତ୍ତୀ ଦୁର୍ଗ ସବୁ ରକ୍ଷା କରିବାର ଭାର୍ଗଣ କଲେ । ତହିଁରେ ଆପେ ସୁସଜ୍ଜିତ ହୋଇ ଏବଂ ଯୁଦ୍ଧୋପଯୋଗି ଦ୍ରବ୍ୟ ସାମଗ୍ରୀ ସବୁ ସଂଗ୍ରହ କରି ମୌଳଭୃତ୍ୟାଦି ଷଡ଼ୁବିଧ ସୈନ୍ୟ ସମଭିବ୍ୟାହାରରେ ମହୋତ୍ସାହ ସହକାରରେ ଦିଗ୍‌ବିଜୟକୁ ଯାତ୍ରା କଲେ ।

2. ଏଥି ଉତ୍ତାରୁ ସେ ବ୍ରାହ୍ମଣ ଦେବାହସ୍ତରୁ ଫଳ ଦେଇ ମହା ଆନନ୍ଦ ହୋଇ ଆପଣା ନଗରେ ପ୍ରବେଶ ହୋଇଲେ । ଆର ଦିବସେ

ଆପଣାର ନିତ୍ୟ କର୍ମ ସାରି ସେ ଫଳ ଖାଇବାର ସମୟରେ ଆପଣା ଚିତ୍ତରେ ବିଚାରିଲା । ବୋଲିଲା ମୁହିଁ ଦରିଦ୍ର ବ୍ରାହ୍ମଣ । ମୁହିଁ ଅଜ-ରାମର ହୋଇ କେତେ ସୁଖଭୋଗ ଭୁଞ୍ଜିବି । ଏଫଳ ରାଜା ଭର୍ତ୍ତୃହରିଙ୍କି ଦେବି ।

3. ସଦା ସତ୍ୟ କଥା କହିବ । ମିଥ୍ୟା କଥା କହିଲେ ପାପ ହୁଏ । ଛଳରେ ବା ଗୋଳରେ ସୁଦ୍ଧା ମିଛ କଥା କହିବ ନାହିଁ ଯେ ସତ୍ୟ କଥା କହେ ଓ ସତ୍ୟ ବ୍ୟବହାର କରେ ସମସ୍ତେ ତାହାକୁ ବିଶ୍ୱାସ କରନ୍ତି ।

FIRST EXAMINATION IN ARTS, 1883.

Tuesday, December 18*th*, 2 *to* 5 P. M.

URIYA—TRANSLATION AND COMPOSITION.

I. Translate into Uriya. [See Urdu Translation paper].

II. Subject of a short Essay in Uriya :—

The advantages of visiting foreign countries.

III. Translate into English :—

1. ମନୁଷ୍ୟ କର୍ତ୍ତୃକ ଯେତେ ପ୍ରକାର ଶିଳ୍ପ-ଯନ୍ତ୍ରର ସୃଷ୍ଟି ହୋଇଅଛି ତନ୍ମଧ୍ୟରୁ ମୁଦ୍ରା-ଯନ୍ତ୍ରର ସ୍ୱରୂପ ହିତକାରୀ ଆଉ କିଛି ଯନ୍ତ୍ର ଥିବାର ବୋଧ ହୁଏ ନାହିଁ । ପୂର୍ବରେ କୌଣସି ଗ୍ରନ୍ଥକର୍ତ୍ତା ଖଣ୍ଡେ ଗ୍ରନ୍ଥ ରଚନା କଲେ, ପ୍ରାୟ ଶତ ବର୍ଷରେ ମଧ୍ୟ ତାହା ନିୟମାନୁଯାୟୀ ପ୍ରସ୍ତୁତ ହେବା ଦୁଷ୍କର ହୋଇ ଉଠେ । ବର୍ତ୍ତମାନ କେହି କୌଣସି ଅଭିନବ ପୁସ୍ତକ ପ୍ରକାଶ କଲେ ତିନି ମାସ ଅତୀତ ନ ହେଉଣୁ ତାହା ଭୂମଣ୍ଡଳସ୍ଥ ସମସ୍ତ ସଭ୍ୟମାନଙ୍କ ମଧ୍ୟରେ ପରିବ୍ୟାପ୍ତ ହୋଇ ପାରେ । କୌଣସି ଦେଶର କୌଣସି ପଣ୍ଡିତ କୌଣସି ନୂତନ ବିଷୟରେ ଆବିଷ୍କ୍ରିୟା ଅଥବା କୌଣସି ଅଭିନବ ତତ୍ତ୍ୱ ଉଦ୍ଭାବନ କଲେ ତାହା ମୁଦ୍ରାଯନ୍ତ୍ରରେ ମୁଦ୍ରିତ ହୋଇ ଅବିଳମ୍ବରେ ଅନ୍ୟ-ଦେଶୀୟ ପଣ୍ଡିତମାନଙ୍କ ନିକଟରେ ଉପସ୍ଥିତ ହେଉଅଛି, ରାଜ୍ୟର ରାଜସମ୍ପର୍କୀୟ କର୍ମଚାରୀମାନେ ଅଦ୍ୟ କୌଣସି ବିଷୟରେ ବିରୁଦ୍ଧା-ଚରଣ କଲେ, କାଲି ତାହା ସଂବାଦପତ୍ରରେ ପ୍ରକାଶିତ ହୋଇ ସମସ୍ତଙ୍କଠାରେ ଗୋଚର ହେଉଅଛି; ରାଜନିୟମରେ ଯେଉଁ ସମସ୍ତ ମଙ୍ଗଳାମଙ୍ଗଳ ଘଟଣା ହୁଏ, ତାହା ଲିପିବଦ୍ଧ ହୋଇ ପରଦିବସ ପ୍ରାତଃକାଳରେ ଦ୍ୱାରେ ଦ୍ୱାରେ ଦୃଷ୍ଟ ହେଉ ଥାଏ । ବାସ୍ତବ ମୁଦ୍ରା-

ଯନ୍ତ୍ରର ସୃଷ୍ଟି ହୋଇ ଏ ପର୍ଯ୍ୟନ୍ତ ପୃଥିବୀରେ ଜ୍ଞାନ ଆଉ ଧର୍ମର ପ୍ରଚାର ବିଷୟରେ ଯୁଗାନ୍ତର ଉପସ୍ଥିତ ହେଉଅଛି, ଏ ପ୍ରକାର ଉଲ୍ଲେଖ କରିବା ଅସଙ୍ଗତ ନୁହେ ।

2. ଜନ୍ମସ୍ଥାନ ସ୍ନେହର ଆସ୍ପଦ । ଯେ ସ୍ୱଦେଶାନୁରାଗୀ ଚିରପ୍ରବାସୀ ବ୍ୟକ୍ତି, ଭୂସ୍ୱର୍ଗସ୍ୱରୂପ ସ୍ୱଦେଶର କୌଣସି ନଦୀ ଅଥବା ସରୋବର ପ୍ରାଚୀନ ବୃକ୍ଷ ବା ପ୍ରସିଦ୍ଧ ଉପବନଭୂମି, ପ୍ରିୟବନ୍ଧୁର ଆବାସ ବା ସଦାପେକ୍ଷା ପ୍ରିୟତର ସ୍ୱୀୟ ଗୃହ, ପ୍ରଣୟପବିତ୍ର ମିତ୍ରମଣ୍ଡଳୀ ଅଥବା ନିଜ ନିକେତନସ୍ଥ ମୂର୍ତ୍ତିମତୀ-ପ୍ରୀତିସ୍ୱରୂପ ମନୋହର ମୁଖମଣ୍ଡଳ ସବୁ ହଠାତ୍ ସ୍ମରଣ କରି ସେମାନଙ୍କୁ ନେତ୍ରଗୋଚର କରିବା ନିମନ୍ତେ ଏକାନ୍ତ ଉତ୍ସୁକ ହୋଇଅଛନ୍ତି, ସେ ଜାଣନ୍ତି, ସ୍ୱଦେଶ କି ପ୍ରକାର ପ୍ରୀତିଭାଜନ ଓ ସ୍ୱଦେଶୀୟ ପଦାର୍ଥର କେମନ୍ତ ପ୍ରେମମୟ ଭାବ ! ଯେ ଦେଶପର୍ଯ୍ୟଟକ ଅନେକ ଦିନ ଉତ୍ତାରୁ, କୌଣସି ବିଦେଶୀୟ ପାନ୍ଥଶାଳାସ୍ଥିତ କୌଣସି ଅପରିଚିତ ବ୍ୟକ୍ତିର ପ୍ରମୁଖାତ୍ ସ୍ୱକୀୟ ଜନ୍ମଭୂମିର ବିବରଣ ଶ୍ରବଣ କରି, ତାହା ପ୍ରତି ଏକଦୃଷ୍ଟିରେ ଦୃଷ୍ଟି-ପାତପୂର୍ବକ, ଅବିରଳ ଅଶ୍ରୁଜଳ ବିସର୍ଜନ କରିଅଛନ୍ତି, ସେ କେବଳ ଜାଣନ୍ତି, ଜନ୍ମଭୂମି କି ପରମ ମନୋରମ ପ୍ରୀତିକର ପଦାର୍ଥ !

3. ପୁରବାସୀମାନେ କହିଲେ, ଯେପରି କୌମୁଦୀ ମେଘାବରଣ-ବିମୁକ୍ତ ନିଶାକରଙ୍କ ସହିତରେ ମିଳିତ ହୁଏ ଏବଂ ସୁରଧୁନୀ ଅନୁରୂପ ସାଗର ସହିତରେ ମିଳିତ ହୁଏ, ଏହି ଭୁଲ୍ଲଗୁଣ ବରକନ୍ୟାଙ୍କର ଯୋଗ ସେହିପରି ହେଲା । କିନ୍ତୁ ଅଜଙ୍କର ଏହିରୂପ ଗୁଣବାଦ ଅନ୍ୟାନ୍ୟ ନୃପଗଣଙ୍କର ନିତାନ୍ତ ଅସହ୍ୟ ହୋଇ ଉଠିଲା । ପ୍ରଭାତକାଳରେ ଏକ ଦିଗରେ କମଳଜାଲ ପ୍ରଫୁଲ୍ଲ, ଅନ୍ୟ ଦିଗରେ କୁମୁଦବନ ମୁକୁଳିତ ହେଲାରୁ, କୌଣସି ଜଳାଶୟର ଯାଦୃଶୀ ରମଣୀୟତା ହୁଏ ; ବରପକ୍ଷ ଏବଂ ବିପକ୍ଷ ନୃପଗଣଙ୍କର ହର୍ଷ ଓ ବିଷାଦରେ ସେହି ସ୍ୱୟଂବରସଭା ମଧ୍ୟ ସେହିପରି ହୋଇ ଉଠିଲା ।